COMPUTERWORLD

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Girls, Numbers, Narcotics – All Are Part of Mafia's DP

By P.L. Carney
Special to Computerworld

"There's no question about it," said a crime commission investigator, "they are certainly using them. They're working numbers with them, they have to be. And they're working narcotics, girls, and betting with them too. I'd bet on it."

"With a computer," a DP analyst explained, "a 'characteristic' could be easily obtained."

A "characteristic" would be a trend in the betting on numbers, obtained by, he explained, an analysis of placed bets, winning numbers, percentages of payoffs, types of numbers used, etc.

By determining the "characteristics" of winning numbers, the people running the racket could predict the loss potential on both types of numbers used for their game as well as the actual numbers themselves that seem to be paying off for the players and not for the game.

"It is fairly obvious," a detective with some expertise in data processing explained, "that computers have entered the numbers rackets.

Spotlight on Mafia

"The winning percentages have dropped," he added, "and so has the variety of numeric combinations employed. I'd say if had to be computers and computer people in on it; the hoods never had it so well figured out before. Not that they're stupid, they wouldn't have the time or the manpower to do it without computers."

Experts in the police departments around the country say that odds are fantastic against winning by playing the numbers. A Chicago detective said: "1:000 to 1 is an understatement. It used to be . . . 20, 25 years ago . . . that 'the suckers' had a remote chance, with a winning of maybe 611 to 1. That's gone. People don't get the chance to het on what the price of liver will be in the corner meatmarket anymore. That's all gone."

"Computers," said a New York State court official, "would give the Mafia a surefire way to success on the numbers. It's not penny ante stuff anymore, not in Manhattan. That's were the bums used to get their training . . . in the numbers, years ago . . . but not anymore. Computers could develop a system so tight,

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Computer in Love?

COLUMBUS, Ohio – Franklin County has a psychic computer with a strong preference for women.

The system used by the county jury commission to select prospective jurors managed to select a list that was all women, and it had no data on sex at all.

The list from which the computer makes selections contains names, addresses, wards, precincts, and occupations, but not a hint of gender – and so far nobody has explained how it pulled off its coup.

Three judges recently had all women juries for civil cases, and one judge in a criminal case found that there were 19 women and one man from whom to choose a panel.

Jury commission officials are baffled by the unexpected propensity of the computer. "It's just weird," said jury commissioner William Carpenter. "Maybe the machine's got something going."

Or, as one judge observed, "I think we have a sex-crazy computer down there."

10,000 Jobs for 100,000 Grads, Witness Tells FTC School Hearing

By Alan Drattell
CW Washington Bureau

WASHINGTON, D.C. – There are only about 10,000 jobs per year open to the 100,000 annual "programmer" graduates of private data processing schools, Dr. Bruce Gilchrist, executive director of the American Federation of Information Processing Societies (Afips), told the Federal Trade Commission last week.

Gilchrist testified the first day of a scheduled five-day hearing on the FTC's proposed "Guides for Private Vocational and Home Study Schools."

The guides cover the cancellation and refund policies of these schools, deceptive trade or business names; misrepresentation of the extent or nature of accreditation or approval; misrepresentation of facilities, services and qualifications of instructors; deceptive use of diplomas, degrees or certificates; and misrepresentation of future employment opportunities.

Gilchrist's testimony dealt primarily with misrepresentation of future employment opportunities.

He said that employment statistics for programmers are sparse, and Afips, with National Science Foundation support, is currently making an industry-by-industry study of information processing personnel.

Although the study is still in its early stages, Gilchrist said that most firms, when hiring individuals from outside their companies, prefer individuals with college degrees. "A very, very rough estimate would be that some 100,000 of the approximately 300,000 people currently employed as programmers do not have college degrees," he said.

"Assuming no change in this degree mix, and assuming a 15% annual growth rate in employment, the conclusion is that about 15,000 jobs per year open up for non-degreed people.

"Since a considerable number of such jobs will undoubtedly be filled by incompany promotions, it is likely that only some 10,000 jobs per year will be open for competition to graduates of the private EDP schools," he said.

Gilchrist cited a study last year by Afips which disclosed that private EDP schools produced close to 100,000 "programmers" in 1969. He chose to put the word programmers in quotes.

"I can find no evidence," said the executive director, "that a corresponding number of new positions opened in the programming field in 1969, and there is

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Serves 250,000 Students

School Net Shows Pioneer Spirit

By a CW Staff Writer

ST. PAUL, Minn. – An aggressive and far-reaching educational network, costing only $5/student and relying on previously untested procedures, is providing instructional, administrative and research applications for 250,000 individuals in 19 Minnesota school districts.

Total Information for Education System (Ties) is a quasi-governmental agency that depends on a sophisticated communications system and a fully integrated data base, for both inquiry and update, to supply the media for the project.

The state has reportedly done some planning towards economic regionalization, and the Ties project, evolving for three years, appears to be one positive aspect.

A B3500 computer schedules classes, performs mark reporting, attendance, payroll and school census reports, salary simulation and population projections, EDP education, and computer-assisted instruction for other subjects.

The 29 districts generally surround the "Twin Cities," but neither Minneapolis nor St. Paul, where Ties personnel are headquartered, are members.

There are half as many students in the Twin Cities as there are in Ties, which has led observers to suggest the initiation of a second, and perhaps a third such project.

Ties planners, in proposing the innovative project, had to convince "skeptics" that a non-aggressive plan would be "out of style" before it could be implemented, said Assistant Director Jerry Foecke. Since there was no precedent, there was no model to compare progress or signal problem areas.

Foecke indicated the usual start-up problems of getting 29 different administrators to think alike have been solved. "We have 98.5% similarity now," he commented.

There are about 40 employees of Ties, which is headed by Thomas Campbell. Although federal funds were used to help

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'Alert' Program Spots Credit Ring

By Edward J. Bride
CW Staff Writer

MINEOLA, N.Y. – A bank's computer has been credited with smashing an organized ring of credit card thieves and recovering 167 stolen cards, after several New York banks lost about $500,000 to the ring.

At least three persons have been arrested as a result of a five-week investigation, started after the computer at the First National City Bank pinpointed one merchant as having an unusually high credit transaction rate.

The merchant, Paul R. Harris, operates a clothing store in Woodmere, L.I., and according to police officials, he normally made few credit card sales.

In a recent two-week period, however, Harris' establishment came up with $4,000 in invoices, and the First National City Bank's computer signalled the transactions as unlikely.

A top bank official, who requested not to be identified, said the procedure was a "standard security system" built into the programming of the bank's IBM 360/40, and that the program was designed to "detect fraud at the earliest possible moment."

The official stated the cards were apparently stolen at the post office, in spite of "everything we can do to avoid the mail problem." After receiving a stolen card, the "ring" would imprint blank sales slips with the card owner's name and number, and sell the slips to merchants, according to the official.

The merchants could then write up to $40 in "purchases" without being required to check the validity of the card. Thus, the bank guaranteeing payment on the transaction was forced to pay.

The official stated that the 167 credit cards, along with 174 such slips, were found in a new Cadillac owned by a second suspect, Arthur D. Zuckerman. His car was parked outside the Harris establishment when the arrests were made. Both

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British Workshop Airs Data Bank Problems

By Joseph Hanlon
CW Staff Writer

LONDON – Computer data banks are just being introduced here, and this means that England is lagging at least four years behind the U.S. in this respect.

The Workshop on the Data Bank Society, held here last month, showed that concern about invasion of privacy is also several years behind that in the U.S.

The workshop, sponsored by the National Council for Civil Liberties, has generated the first widespread national publicity about data banks, and thus has served part of the function of the 1965 congressional hearings on the National Data Bank.

The workshop drew 120 participants, more than expected, including several members of Parliament, but the speakers resorted to much buckpassing, with representatives of the computer industry, the British Computer Society, and Parliament all saying that data bank control was someone else's problem.

Leslie Huckfield, MP, one of the conference sponsors, noted: "If the general tone of this workshop is to be the general tone of the country, then we honestly shan't get much done."

Pessimistic View?

That view may be a bit pessimistic. The national publicity alone probably justified the workshop, and indicated the beginning of a broader-based concern, but few concrete proposals came from the project.

The participants generally agreed that adding safeguards to data banks was a political problem, not a technical problem. Most participants supported the idea that a data bank licensing system is needed, including a national register of data banks – a data bank data bank. Many also supported the need for some sort of regulatory boards.

Government, Too

The workshop also generally supported a call to permit the Younger Committee, the Parliamentary Committee of Privacy, to consider government invasion of privacy. At present, the committee can only look at private industry, but most conference participants felt that government represented the biggest threat to privacy.

Four Americans

Four Americans spoke at the conference: Prof. Alan Westin (Columbia University, author of *Privacy and Freedom*), Rep. Cornelius Gallagher (D-N.J.), the writer, and Prof. John M. Sharp (University of Manitoba, co-author of *Credit Reporting and Privacy*). In general, the Americans stressed the problems there, and urged the British to take advantage of the time lag to introduce safeguards.

Tony Smyth, general secretary of the National Council for Civil Liberties, commented: "If we are not warned by the American experience, then it is our own fault."

29 School Districts Form Comprehensive DP Network

(Continued from Page 1)

establish the project, it is self-supporting today.

Foecke said the growth of Ties has necessitated the acquisition of a second B3500 processor, which will afford more processing speed and a shared data base with the existing equipment.

'Separate Tool' for Basic

The project also uses a Hewlett-Packard 2000B, with 32 lines, to provide instruction in Basic for the 200 elementary and 80 secondary schools. The time-sharing computer is considered a "separate tool," and enhances the total instructional value in the computer science area, Foecke indicated.

An accounting package, budgeting, and inventory applications are in the design phase. Central purchasing, transportation, planning, a research library, statistics, and other applications are planned for the future.

One "critic," according to Foecke, is Robert Nelson, who represents the Richfield Public Schools as a Ties coordinator. Nelson is an employee of the school system, and represents the users in dealing with Ties personnel.

He noted that report cards and attendance applications were behind schedule, but said he would recommend adoption of the system by other districts because of the "high caliber" of personnel attracted by such a progressive idea.

Foecke said he was very happy with the Burroughs equipment, particularly the operating system, or System Control Programs (SCP).

"Burroughs SCP has been a tremendous boon for this project," Foecke said. "It does what it says." The only problem, he said, in systems software was a fast file handler for an integrated data base system, "so we developed one."

A similar educational network, using an IBM 1500, is operating in Oregon, Foecke noted, but there are "only" 80,000 students in that system, and it costs $11 or $12/student.

Bank's Computer Solves Card Ring

(Continued from Page 1)

ment is rare in their early twenties.

Involved were credit cards from Bank of America, Diners Club, American Express, and Master Charge. All companies use computers, the official stated, but because of variances in billing procedures, the detection could not be made simultaneously.

He noted all credit card companies "cooperate when it comes to security. We're not competitive there at all."

The official stated that the "family" involved in the theft and forgery was "local in nature," and was apparently headquartered in Brooklyn.

Should the Candidate Laugh or Cry

CW Midwest Bureau

DETROIT – On the day Wayne County's Board of Canvassers certified the Detroit general-election with a three to one vote, one candidate still didn't know if he had won or lost.

Ray Dzendiel, who questioned his defeat in the August punched card primary, was a write-in candidate for the state legislature in the general election.

As of the certification of the election by Wayne County and the subsequent approval of the vote count by the State of Michigan, Dzendiel did not know whether he had obtained one vote or a winning plurality.

In Dallas, Texas, meanwhile, Datamedia President Thomas Schoen announced that his firm planned to branch out into other computer-service business areas but said he did not mean to imply that his firm was scrapping punched card voting.

The City of Detroit is suing Datamedia and its bonding company, American Insurance Co., for $1 million. Detroit has also frozen Datamedia's $250,000 down payment on Detroit's lever voting machines and has stopped the payment of $100,000 to the computer firm for election services.

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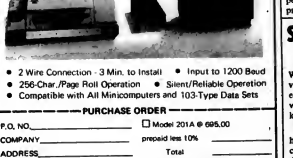

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Consumers Get a Data Bank

CW Midwest Bureau

MADISON, Wis. – Wisconsin has set up a data bank to analyze consumer complaints.

The attorney general, Robert W. Warren, said the programs were developed to show how initial sales contracts were made, the industries involved, and the nature of the practices that gave substance to the complaints.

The data bank is the cooperative effort of the state's Justice Department, Agriculture Department, county district attorneys' offices, police departments, sheriff's offices, chambers of commerce, and consumer agencies.

The state's Bureau of Systems and Data Processing's IBM 360/50 runs the program for the bank under the direction of Carol Judd, a systems analyst.

Warren said that the state's Justice Deparment received 636 complaints in the first half of the year, with the other involved agencies receiving another 823 complaints in the same period.

According to the attorney general, most of the complaints – 792 – were initiated at the sellers' premises. He added that door-to-door selling involved 314.

Most popular complaint, the attorney general said, was the charge of failure to deliver ordered merchandise. Deceptive advertising practices followed with 204 complaints, 20 less than delivery failure.

Motor vehicles, Warren said, received 133 complaints, with home appliances missing a tie by only two. Books and magazines received a complaint total of 105, with grocery and produce complaints receiving 86, the attorney general stated.

Motor vehicles and home appliances seemed to set a pattern, as determined by analysis of complaints stemming from failure to honor warranties. Books and magazines seemed to develop, according the statistics, a trend for both non-delivery and unfair collection practices.

The data bank, the state said, will enable authorities to pinpoint trouble sources by industry, location, and type of offense with the vendors guilty of unfair practices categorized and located more easily.

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Mafia Exploits Data Files

(Continued from Page 1)

the game could pick the winner."

"The routine's old," said another New Yorker. "They drop big [lose heavily] in a black or a Puerto Rican neighborhood, that gets mouthed around, and for the next few months they clean up. Just when people are getting fed up, whammo . . . another big drop. Now you tell me that isn't machine made!"

"It used to be," said an old time officer, "that the easiest way to bust [arrest] a numbers runner was to catch him with the policy slips. Now a telephone call gets it into some computer somewhere and what do we end up with? Nothing that's any good in court."

"Girls?" said a member of the Chicago vice squad, "Sure! But not the way you think; too many amateurs out on the streets. But the best way there is to get yourself shaked down is with one of their girls. That's where the big money is."

He explained that girls, very attractive girls he described as "professional mistresses," are meeting men in a variety of ways that a successful, intelligent businessman would not question.

"Not on the streets or in bars, but at fashionable parties (not in the man's hometown, of course), convention "hospitality suites," in the normal places a man would meet a pretty young girl in the normal course of his business day or night."

The detective explained that the victim's worth is easily obtained by a computerized credit check through one of the Mafia's legitimate business fronts. Once the value is ascertained, the ploy is enacted. It could range from thousands of dollars very quickly charged to his credit cards to blackmail for money or extortion of him for Mafia entrance into his, until then, untainted company.

Replacements

"The Mafia doesn't replace presidents in companies," he said. "They replace comptrollers, purchasing agents, and shipping agents, and shipping clerks. Then watch that corporation's capital reserve go down."

Computers in this baiting game serve many purposes, police say. A lot of information on a lot of potential victims, including such tidbits as his weaknesses and petty vices, adds up to a relatively large data file.

"It's as easy to tap a data line as it is to tap a phone line," said an AT&T official, "but with a phone line you obtain words that you can make some sense of. With a data line tap, your printout will mean nothing without the codes," and this could be an effective cover for Mafia operations.

Narcotics entry into this country, say Federal Government sources, is reaching staggering proportions. "There is no question in my mind," said an undercover agent, "that over 90% of narcotics in this country were brought here by the Mafia.

"I'm convinced," said a police DP expert, "that the Mafia has both an out-inventory program on dope in this country as well as records on its distribution.

He looked sad when he said, "probably in numeric code on disks."

FTC Told of Need For Accreditation

(Continued from Page 1)

every indication that a corresponding number of new positions will be considerably lower in 1970 than in 1969." He added that there are currently many experienced programmers looking for jobs.

In response to a question from the commission's counsel, Henry B. Cabell, Gilchrist said that Afips "has some evidence that indicates employers are happy with some graduates of private EDP schools. The thing we do find is that there are not enough jobs for all graduates."

Gilchrist added that he personally felt accreditation of private schools "could only work to the good . . . it is a positive step toward solving the problems of this industry."

His support of accreditation was echoed by other individuals who testified.

Lear-Siegler Inc., which owns and operates 26 business and vocational schools with enrollment of approximately 16,000 students, said in its brief that "the proposed guides undermine and seriously weaken the authority of the national accrediting commissions. They do this by setting a combination of different standards, conflicting standards, lower standards and less flexible standards than those now required by the accrediting commissions."

Control Data Corp., in a filed written brief for its Control Data Institutes, signed by President William C. Norris, added: "Greater recognition should be accorded the crediting function now performed by the National Association of Trade and Technical Schools (Natts) and the United Business Schools Association (Ubsa)."

News Wrapup

Watson Has Mild Heart Attack

CW Washington Bureau

WASHINGTON, D.C. – Thomas J. Watson Jr., 56, chairman of the board of IBM, suffered what was termed by a company spokesman "a mild heart attack" Nov. 19.

No formal announcement was made outside the company, the spokesman said, since "we didn't feel it necessary because of the mild nature of the attack."

Doctors, the spokesman said, have told Watson that he would make a full recovery and be able to resume normal activities.

Commerce Official Tribus Leaves for Xerox

WASHINGTON, D.C. – Dr. Myron Tribus has left his job as assistant secretary of commerce for technology, effective Nov. 30, for a reported $100,000-plus a year job as vice-president of research and development for Xerox Corp. in Rochester, N.Y.

Before coming to Commerce, Tribus had been dean of Dartmouth College Engineering School where he was deeply involved in the time-sharing setup. At Commerce, he was responsible for the National Bureau of Standards, among other units, and he was reported to be responsible for the dismissal of Dr. Herbert R.J. Grosch from his post as director of the Center for Computer Sciences and Technology.

Menu-Planning Gets Assist From Computers

CW European Bureau

CHELMSFORD, England – A small team headed by Essex and drawn from the Sheffield Polytechnic and Honeywell Information Systems will be investigating the application of computers to the planning of menus and ordering of food.

Menus and orders for foodstuffs for Essex schools are at present prepared individually in about 500 kitchens. The main objective of the research is to assess the possibility of programming this task for computer.

'People-to-People' Plan Seeks Smaller World

BOSTON – Miss Phyllis Benbow calls it a "people-to-people program whose time has come." "It's a way of implementing human brotherhood," said Edward E. Kreitsek, general manager of the project.

Called "Hearthways International," the new enterprise sets up a computerized data system to register profiles of families and individuals, here and abroad, and their choices on visit exchanges.

Miss Benbow and a group of Boston-area businessmen have launched the plan to turn people into good neighbors.

Forecasting System Not Yet Completed

LONDON – A long-range weather forecasting system, although a few years away from general use, has proven encouraging to scientists in its first tests.

Dr. B.J. Mason, director general of the Meteorological Office, said the system could accurately forecast weather conditions five to seven days ahead.

The system depends on a method of working out long-range weather conditions by analyzing measurements of wind speeds, atmospheric temperature, pressures and other data from a global network of observation stations.

Massachusetts Studying Off-Track Betting

BOSTON – A computer system especially designed for off-track betting using a ticket printer developed by a Boston company was demonstrated to a special legislative committee at the Massachusetts State House.

This same system will be used in the New York City off-track betting system that will become operational in January 1971.

Massachusetts is studying the New York system as a means for more state revenue.

Robert D. Kodis, president of Di/An Controls, Inc., the developer, placed a bet and received a sample ticket from the printer.

University to Study Job Bank Effectiveness

MADISON, Wis. – The University of Wisconsin has received a $72,000 grant from the Department of Labor to undertake a two-year study of the effectiveness of the Job Bank program that uses computers to help match jobless persons with available jobs.

George P. Huber, a professor of the Graduate School of Business, will be in charge of the study.

The Labor Department hopes to have job banks operating in 101 cities by the end of next year. They are already in use in cities in New York, Utah and California.

Medical Centers Join Management Project

BIRMINGHAM, Ala. – The Baptist Medical Centers have become the first link in a sophisticated computer management plan which will eventually apply computer and management analysis to hospital patient care across the country.

A three-year contract was awarded to Medicus Corp. of Dallas to assume control of all the BMC data processing and use hospital facilities to develop new techniques in hospital DP.

City Fails to Nullify U.S. Census

By Edward J. Bride
CW Staff Writer

MANCHESTER, N.H. – This city's attempt to invalidate at least part of the U.S. census, by using computer printout to locate 9,000 "missing persons," has apparently fallen far short of its goal.

The state has accepted the local count of 96,722 for the purpose of awarding special taxes and educational grants, but the official U.S. count places the Manchester citizenry at only 87,754.

This represents an increase of 411 over preliminary federal figures, and Manchester Tax Assessor John McGranahan said the difference was in "one city block" which the federal census bureau "omitted from the test enumeration district."

If the federal figures stand, then Manchester stands to lose up to 10% of all federal monies awarded on a *per capita* basis. Included would be certain educational, housing, and public roads grants.

Federal officials from the Boston regional office visited Manchester in October, to try to verify any discrepancies between the federal and state counts, but reported "several duplications" in the test district, and left after one day.

Deputy Regional Census Director Arthur Dukakis said it was a "coincidence" that the 411 increase was the same as the city block in question, and the increase really came from redistribution of military and student personnel throughout the country.

He said, the Manchester printout did not provide "a clean list to work with," and that different rules for residency were used in the local count.

As an example, he noted student and military personnel are counted in their actual location as of April 1 during the federal census, and not at their legal residence, as occurs with the Manchester count.

McGranahan admitted this, but added, "We didn't count those students or military personnel temporarily located here" for Manchester's census, either. Dukakis pointed out that the basis for residency, then, was "different right from the beginning."

The net difference in this regard is only several hundred. Left in doubt is the tax status of thousands of residents who paid their poll or head taxes, levied in lieu of sales or income taxes.

McGranahan stated he was writing a letter to Congressman Louis Wyman to see whether the matter could be pursued by identifying each duplication in the test district.

"I don't care what your computer says, those people must be paying their tax bills twice."

Titusville Goes To the 'Doctor'

TITUSVILLE, Fla. – When Metro Computer Service folded recently, it left the government of this city wondering how to issue paychecks and utility bills and keep its books straight now that everything was computerized and they didn't have a computer.

It turns out the city went to the hospital.

Mayor John Gandy suggested that City Manager Lee S. Ayres consult with the administrator of Jess Parrish Memorial Hospital, Jim Muse.

After having discovered that fees to various private service bureaus would have increased billing and accounting costs by as much as 80%, Ayres was happy to find that he could arrange to use the hospital's computer for less than he had been paying Metro.

Jacksonville Voted DP Funds

JACKSONVILLE, Fla. – Funds for a new computer, new personnel, and a new data center have been approved by a special committee which investigated the problems uncovered recently by the city auditor [CW, Aug. 26].

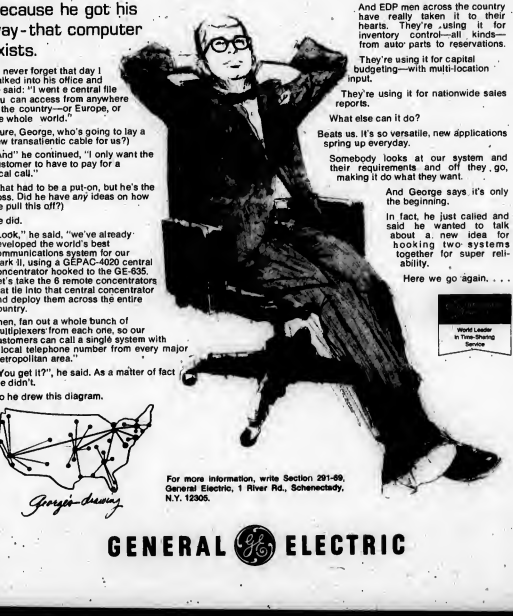
Still under design, the new data center will have a "control section" which will limit access to both the computer room and the tape library.

Other security measures recommended by the auditor's report, and slated for implementation, include locking the doors and the possible wearing of badges, stated Robert Fender, manager of operations and administration in the city's DP division.

Included in the plans are strict environmental control measures, for temperature, humidity, and power. A laxity in this area was criticized in the report, and it was revealed later that the roof leaked so badly a tarpaulin was needed to keep the computer dry.

George wanted to build a 3,000 mile wide computer

That may sound crazy, but Dr. George Feeney's crazy like a fox. Because he got his way - that computer exists.



I'll never forget that day I walked into his office and he said: "I want a central file you can access from anywhere in the country—or Europe, or the whole world."

(Sure, George, who's going to lay a new transatlantic cable for us?)

"And" he continued, "I only want the customer to have to pay for a local call."

(That had to be a put-on, but he's the boss. Did he have any ideas on how we pull this off?)

He did.

"Look," he said, "we've already developed the world's best communications system for our Mark II, using a GEPAC-4020 central concentrator hooked to the GE-635. Let's take the 6 remote concentrators that tie into that central concentrator and deploy them across the entire country.

Then, fan out a whole bunch of multiplexers from each one, so our customers can call a single system with a local telephone number from every major metropolitan area."

"You get it?", he said. As a matter of fact we didn't.

So he drew this diagram.

Then he said, "Do it. And use a satellite to get to Europe. It'll be the Time-sharing system that only EDP people can love."

We did. And they do.

Oh, yes — we call it General Electric Network Service.

And EDP men across the country have really taken it to their hearts. They're using it for inventory control—all kinds—from auto parts to reservations.

They're using it for capital budgeting—with multi-location input.

They're using it for nationwide sales reports.

What else can it do?

Beats us. It's so versatile, new applications spring up everyday.

Somebody looks at our system and their requirements and off they go, making it do what they want.

And George says it's only the beginning.

In fact, he just called and said he wanted to talk about a new idea for hooking two systems together for super reliability.

Here we go again. . . .

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Burroughs Defense Says TWA 'Accepted' Computers

NEW YORK – Whether Trans World Airlines "accepted" its Burroughs computers or "permitted [Burroughs] to deliver" them appears to be a central point in the airline's $70 million breach of contract suit [CW, Oct. 28].

This difference between the TWA suit and the Burroughs defense points up an issue of increasing frequency: lack of understanding between vendor and user.

The Burroughs defense states that TWA "after testing . . . accepted substantially all of the items" in the contract, and that TWA proved this acceptance by paying for what it had received, and by ordering more.

TWA had previously charged the equipment was "unreliable, incomplete and defective," and that it had "permitted" delivery "in reliance upon Burroughs' warranty that the system was fit for its intended use."

The Burroughs reply also denies liability beyond replacing defective equipment, while TWA seeks to recover other damages for employee training, leaseback costs, etc.

Complicating these pretrial proceedings is the charge by Burroughs that TWA breached the contract by allegedly failing to give written notice "and an explanation of circumstances concerning any claim that any item" did not conform to warranty.

Burroughs, in its reply, seeks to have the suit dismissed, barring TWA's claims because the equipment had been "accepted . . . more than one year before" the suit was filed, or, in other words, the suit was allegedly filed after Burroughs' limitation of liability had expired.

Burroughs called training and finance costs "indirect or consequential damages," from which the contract "expressly" exempts the manufacturer, according to the reply, which was filed in the federal court's Southern District of New York.

Burroughs also claimed that TWA was "not the real party in interest" since the equipment had been sold to CIT Corp. and leased back by the airline.

TWA had no comment on the reply, or on the separate action filed by Burroughs, which seeks to collect $11.5 million as the final payment for the B8300 system.

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State Board Overrules Special Investigator In Analyst Firing

OLYMPIA, Wash. – The State Board Against Discrimination has reversed the opinion of a special investigator and concluded there was probably no discrimination in the firing of computer analyst Frank Majdali.

In releasing the board's findings, Chief Investigator Glen E. Mansfield said that separate charges by Majdali – of waste, improper programming, and deliberately covering up inefficiencies – were "not to be decided by the Board Against Discrimination."

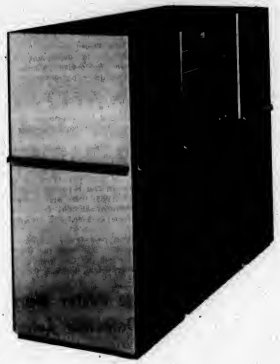
Mansfield told CW there was "not a scrap of evidence" to support the discrimination charges in Majdali's complaint; other than some admissions of ethnic jokes which Majdali testified did not offend him.

Majdali is a Palestinian Arab, and was fired for "insubordination and incompetence" after almost three years at the state Highway Department [CW, Nov. 4].

Marvin Honore, assigned to investigate the situation, prepared an eight-page report for the state board, and he concluded there was a "reasonable cause for believing a discriminatory practice has been committed in this case."

Mansfield said Honore was "too thorough" in attempting to investigate the waste issue, and was reassigned to an office job to "relearn some basic procedures."

Honore had been censured by superiors for attempting to see Gov. Daniel J. Evans with his findings on waste and inefficiency.



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Computer Is Digging In Down on the Farm

CW Midwest Bureau

LAFAYETTE, Ind. – Thanks to Purdue University, the farmers of Indiana can add a computer to their list of farm tools.

Indiana farmers, for about $75 annual charge, which Purdue says is about one-half the cost of the service, can have the university's computer do their farm and financial record programs.

According to Thomas J. Aird, manager of user services at the university's computer center complex, a doctoral candidate in agricultural economics, Robert Rades, designed the programs. He services the contracted farms with a portable teletypewriter and an acoustic coupler by means of a long line connect direct from the farm.

Housed in the campus' new Krannert Building the agricultural economics terminal is on-line to the DP center across campus. The installation houses a CDC 6500 hooked to an IBM 7094 and the 7094 receives the varying input, Aird said.

The terminal serves the Rades programs as well as programs and research studies for teachers, farmers, county extension agents, researchers, and agriculture-related industries.

To keep the process going, four programmers and nine keypunch operators work with nearly 50 faculty members and over 100 graduate students in agricultural economics.

The department, Aird said, also has a computerized game used in the teaching of farm management, industry supplied data on product merchandising, and programs that teach the planning of feed mixes for maximum nutrition at minimal costs.

Theoretical research programs are carried on through the center complex by Purdue's Population Genetics Institute in the Animal Sciences Department.

Houston Swells Coffers With Delinquent Taxes

CW Midwest Bureau

HOUSTON – Collection of delinquent taxes climbed $1 million in 1969 over 1968 here, and city officials are crediting a computer for the upswing.

"We have eliminated almost all door-to-door collections," said L.H. Davis, supervisor of the delinquent tax section for the city of Houston, "and make phone calls less frequently."

The system, begun in 1967, was programmed by the city's DP staff for a Honeywell 4200.

On Jan. 1 of each year taxes not paid for the previous year become delinquent. On Dec. 31, 1969, there were a total of 81,000 delinquent accounts. On the very next day there were 767,772 delinquent accounts.

The program records the accounts by property address and mails out the tax bills. Bills are sent out four times a year, and the programming accounts for paids by deletion.

Chicago Doctor Wins Cell Detection Award

LOS ANGELES – A doctor has teamed up with computer technology to win the George N. Papanicolaou Award at the annual meeting of the Society of Cytology here.

The award was given for development of a "super consultant" in the form of a computer to help detect differences in tissue cells taken from human organs.

In such a way, doctors can eliminate the needless surgery of removing what are non-cancerous cell growths because of doubts as to their benign characteristics.

The recipient of the award, Dr. George L. Wied, is professor of obstetrics and gynecology at the University of Chicago.

By teaming up microscopic techniques with computer programming, Wied has refined detection evaluation.

Narcotics Addiction Profiled

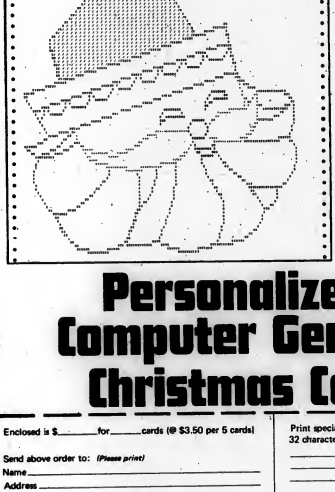
BALTIMORE – It usually starts with curiosity about the "kicks" a friend of the same age is getting. It progresses to a habit costing from $65 to over $100 a day. It frequently ends in death.

This is the typical pattern of hard-core narcotics addiction in American cities, outlined by a two-year computer study recently made public.

Conducted for the U.S. Office of Economic Opportunity by the Friends of Psychiatric Research, Inc., a non-profit research organization, the drug-use study is one of the most comprehensive ever undertaken in this country.

Using an IBM 1130 to compile more than four million answers to questions asked of some 6,500 addicts ranging from ages 13 to 74, the coast-to-coast study has yielded over 28 volumes of statistical analyses.

From the findings a number of common characteristics emerged including: most of the addicts were born in urban areas (86%); most averaged the same amount of education (10.1 years); men outnumbered women 4 to 1, and, most had never been in the armed forces (83%).



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'Blame Computer Syndrome' Hit

NEW YORK — Distressed by what he calls distortions of computer-related problems, the president of the Association for Computing Machinery (ACM) has called on its members to educate the public and eliminate "what I call the 'blame the computer' syndrome."

Walter M. Carlson said that computer professionals have a "two-sided role" of "accurately projecting" the benefits of computers while "anticipating the potential abuses of the computer and seeking answers."

He said computer professionals, particularly ACM members, could thus serve as "beacons for those who are cowered by the technical enormities" of computers.

Carlson made the remarks in his "President's Letter" in the monthly *Communications of the ACM*, the regular member publication. He said one of his personal goals was the allocation of 25% of the ACM budget to "public education activities" by 1972.

He said ACM '70 had started this project and, judging by the publicity and radio-TV participation, "the media had finally recognized that "the computer industry has permeated the fabric of our entire society.

"For good or evil," Carlson wrote, computers are "shaping our future."

Carlson said that "public consciousness" was growing, and observed three areas of "internal warnings" which are becoming clearer:

- "Large sums . . . being extorted from the public by fraudulent computer schools."
- "The mindless outpouring of computer-spawned form letters."
- "Physical attack" directed at computers "on too many college campuses and in some industrial centers."

The president of the computer community's senior society said that the only way to counteract these problems was by a long-term education program "based on fact and grounded in sound technology . . . with a sense of social relevance."

The short-term problem is comprised largely of "glaring misconceptions that appear in the popular and trade press," and Carlson urged members to supply facts to the media, write articles, and "step from behind our consoles and speak up!"

New Horizons Ahead

PHOENIX — Returning from your computer-selected job to your computer-selected apartment and your computer-selected wife/roommate, you may now engage in your very own computer-selected hobby.

From horseshoe pitching to stamp collecting, from racing sports cars to raising hamsters, the good computer will tell you exactly what you are suited for. All you have to do is fill out a 200-question psychological examination and send an outfit called Guidance on Leisure Activity (Goal) $20.

Goal has set out to guide the restless to their most rewarding pastimes, and in return for his money, a new Goal member receives a list of 80 activities the program finds most suitable for him, listed in order of appropriateness.

The top three choices for one New York public relations man, for example, were magic, public speaking, and bridge. A newspaper reporter, though, was advised to take up photography, pen pals, gardening, traveling, and palmistry. Writing was low on his list.

The organization intends to provide its members with a newsletter, as well as a catelog of hobby merchandise — which it plans to sell to the members at a profit.

Goal is at 222 West Obron Road, Phoenix, Ariz. 85013.

Computer Drums Up Opera Support

SEATTLE — Computers are going to the opera here for the purpose of personalizing volunteer financial support.

Opera-goers' names are stored on computer tape and a quick search reveals those who are contributors to the opera but don't belong to the opera guild, etc.

The computer used is one belonging to the University of Washington. Manpower to develop the opera system was supported by the federal work-study program for non-profit organizations with university students doing the work.

The next job on the agenda is that of computerizing the opera's accounting system for billing and follow-ups.

...A Sad Day At Stock Show

MADISON, Wis. — For the kids, all the fun was gone. That seemed to be the prevailing sentiment of the participants in this year's Southern Wisconsin Junior Livestock Show held here recently.

This year, the state Agriculture Department decided to add the efficiency of a computerized evaluation program to the affair.

The kids who worked all year to groom their animal entries into blue ribbon champions didn't appreciate the addition. Some of the parents referred to it as "computer interference."

This year, most of the judging was done at the DP center of the Oscar Meyer Packing Co. Some of the judging was done at the show, but some was done at the plant, after the animals were slaughtered.

The computers at the packing plant ran a meat value program, combined the points the entry had received at the show, picked the winner, and printed out the checks. The show was held on a Wednesday and the kids found out who won the next Saturday.

Gone was the final auction, in which the winning animals are bid for as the grinning winner stands there and listens to the bids climb. This year the winner got a predetermined $1,000.

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The exchange data terminal 33 works with virtually all time sharing services. So even if you're not currently using this terminal, there's a good chance the 33 is compatible. (To make sure, just ask your time sharing service.)

If your requirements call for Model 33's Data-Phone, or Data Access Arrangements, we can supply them too at equally attractive rates. We even have terminals with wheels so you can move them to any office location.

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Interested in the most economical and efficient data terminal for your needs? Contact me at Western Union Data Services Company, 16 McKee Drive, Mahwah, New Jersey, 07430. Phone: (201) 529-4600. Telex: 12-5077.

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Editorials

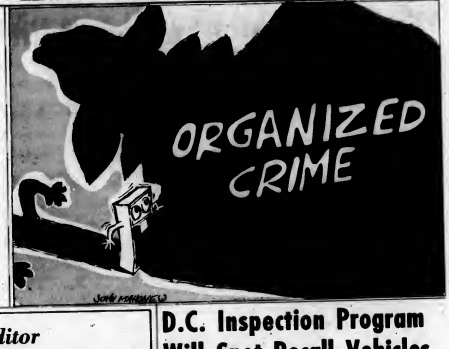
Not Yet, But Maybe Soon

Old joke: After the giant new computer was turned on, the designers asked it, "Is there a God?" The computer replied, "There is now."

Fact: Fatal mistakes are made in wartime. Decisions based on faulty information sometimes cause soldiers to bombard their comrades or civilians.

Statement by international conference of scientists: "There is already a growing dependence of [arms] systems on complex and rapid computer-controlled response and consequent erosion of the control of political leaders over final decision [CW, Nov. 4]."

Conclusion: If we don't watch out, mankind will be destroyed as a result of some defective minicomputer cast in the role of God.



Letters to the Editor

Watchdog Committee Suggested To Oversee Use of Data Banks

CW has played up Sen. Ervin's and Congressman Gallagher's fight against the army's data bank and even told us that Jane Fonda made the Army's list.

The Sept. 2 front page regarding the bombing at the University of Wisconsin clearly indicates the need for the Army's data bank of civilian political activity.

CW was right to worry about the proliferation of the data bank by the Army. In a democracy such as ours, we constantly walk a narrow line between the personal freedom of the individual and the collective rights of our society.

To me, this means that it is essential that the Army, or other top level government agency, be charged with that responsibility. The Army is a reasonably logical choice because it will be the organization to bear the brunt, along with the National Guard, of protecting life and property against insurrection and riot.

As citizens, we must however, be protected against overrealousness on the part of the data gatherers. Perhaps a select committee of Congress or members of the Congressional staff should be appointed as watchdogs.

They would set up rules regarding retention of names and files, as well as policies governing dissemination of the data to the various military and paramilitary commands.

I say the above even though the possibility exists I could be included in the data bank.

Frank A. Mleko

Arlington Heights, Ill.

Reader Calls Coverage Ironic

Re the Oct. 7 front page headlines "Violence by Rebels Threatens Centers" and "Computers at War – Action Tests Prove Applications' Value." What irony to allow our two most critical national problems to show up so obviously. Making wars efficient, and more inhuman therefore, allows the "computer" to become a symbol of destruction to many.

Wilhelm C. Kast

Birmingham, Mich.

ICC Suited for Management?

The article on computers in Vietnam [CW, Oct. 7] referred to the 77-hour "daily" cycle at Long Binh. As a former staff member of the Inventory Control Center [ICC] on Long Binh post, I would like to cast more light on the subject.

The situation is a classic example of an attempt to use a "package" for other than its intended function. The Army's Standard Supply System [SSS] was developed by/for the Pacific Command in Hawaii, as a comprehensive inventory system, oriented to the typical peacetime Army depot. In such an installation, the supply management section is central to the warehousing facility, and they operate as one unit.

In Vietnam, the ICC at Long Binh is a management-only organization which controls three or more remote storage facilities, each of which has its own DP facilities.

In the spring/summer of 1968, Army management in Hawaii insisted that SSS be installed in Vietnam. The project was assigned to a combined team of Army personnel and civilian contractors – more than a dozen people in all.

Their problem was twofold: separate the management functions from the depot activities; and redesign the logic and the files to support multiple depots. The first was no crisis, although time-consuming.

The second was a real headache. Exchanges between depots had to be provided for. Two different sources of supply had to be built – in Okinawa and the States. Rapid damage due to severe climatic conditions had to be accounted for.

Several man-years of labor, untold hours of computer test time, and more than six months elapsed time were needed to convert the system into a barely functional version. Meanwhile, the ICC had a competent staff of programmer/analysts who most likely could have developed a tailored system in less time, and the run time would have been significantly less.

The system was an overproductive monster to begin with; it became an overpatched colossus in the end.

Richard B. Reed
System Consultant

Micro Graphics
Detroit, Mich.

What an Incredible Name!

I think UTERWORLD is an incredible name for a rather interesting and newsy computer publication. Why don't you let us or some other reputable design service redesign your masthead so that you could present some other name to the world.

It looks especially silly in the lobbies of the various computer component companies I visit.

Dick Steinheimer

Steinheimer & Bender
Palo Alto, Calif.

Author's Name Was Omitted

We were delighted to see our book, *Logical Programming with System/360*, so favorably reviewed in the Oct. 14 issue.

However, the name of the author was omitted from the review. The book is by D.H. Stabley. This additional information will prove very helpful to your readers in either ordering the book or locating it in their libraries.

Lorraine Kessler
Publicity Director

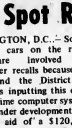
John Wiley & Sons
New York, N.Y.

D.C. Inspection Program Will Spot Recall Vehicles

WASHINGTON, D.C. – Some 13 million cars on the road today are involved in manufacturer recalls because of defects. And the District of Columbia is inputting this data into a real-time computer system currently under development.

With the aid of a $120,000 customized program from Synergistic Cybernetics Inc. (SCI), a computer systems company based in suburban Falls Church, Va., the district will use the real-time approach in its two-vehicle inspection stations.

D.C. Data-Line By Alan Drattell



The inspection program involves 350,000 vehicles each year and in operation since 1939, it is one of the oldest in the U.S., regarded as a forerunner in the development of new inspection techniques.

The customized computer system going into operation here could easily be standardized for use by other states.

Each station will have CRT display units linked to an IBM 360/50 with a total 384K core at the district's Share computer center in downtown Washington.

There will be three IBM 2260 displays and one 2365 display at each inspection station. IBM 1053 printers will provide hard copy output for inspection records.

The initial phase of the program, scheduled to go into operation in January, will allow inspectors at the stations to spot recall vehicles by inputting the make and vehicle identification number of each car. Later on, the program will expand to include identifying accident damage, expired or stolen driver licenses, and stolen inspection stickers.

The recall program for new vehicles and for cars being registered in the district for the first time works like this:

The make and vehicle identification number (Vin) are typed out on the CRT at the station. A typical input would be: 69 Chevrolet 164369T024000. In the Vin, the first digit, the 1, stands for Chevrolet; 6436 is the model; 9 is the model year (69); T is the plant in which it was produced; 024000 is the sequential production number.

"We had a big problem," explained Carl A. Odell, programmer/analyst in the Share center, "since we are dealing with a vast number of recall vehicles. We had to come up with a formula to compress the Vins so that we would not have to put each of the 13 million numbers individually into the computer. To store this much information we would need seven or eight disk packs of the IBM 2314."

Devising a shorthand Vin, the compressed numbers will fit into about two packs. Odell used a method that stores Vins in series. For example, one store would contain numbers 164369T024000 to 164369T025500. Many of the numbers in that series would include vehicles in the recall category.

Thus, when an inspector inputs the make and Vin, an answer might come back: recall campaign 690091. The inspector, who has books from the U.S. Department of Transportation listing all recall "campaign" numbers, would check 690091 in one of the documents. The book would tell him what the recall is about – e.g., faulty muffler, brakes, etc.

The inspector next checks the vehicle to see whether the defect has already been corrected and if in fact the driver has received manufacturer notification.

Previously registered vehicles in the district are treated somewhat differently. "We already have information on these vehicles in the system," Odell explained.

When the vehicle comes in for inspection, the computer does not have to search a massive recall campaign data base. Instead, the recall records have already been flagged off-line and the data is quickly sent back to the inspector via the CRT."

With Such Arrogant Friends, Who Needs Enemies?

The Taylor Report
By
Alan Taylor, CDP

Last month I wrote about the harm that was being done to the image of data processing through the arrogant approach to the public that is taken by many system designers [CW, The Taylor Report, Nov. 18].

Two cases were given – a Massachusetts Blue Cross-Blue Shield bill that sent out a one-copy card bill, marked "This Card Must Be Returned" when it was not even true, and a Master Chgrge credit card bill which used a computer-printed return address where it could be, and was, partially obliterated both by punched holes, and by postmarks.

Since then, comments and more examples have come in. One reader pointed out that the Master Charge system probably makes the bank concerned responsible for nondelivery of mail. After all, if you put your check into their specially designed envelope as asked, and it fails to reach its destination because of their chosen system, that is surely their fault not yours.

The reader went on to point out that this makes the basis for charging interest – at 18% or so – for payments not received very questionable.

Another reader wrote, giving both more examples, and some methodology of dealing with these cases. Here is his letter:

Re your "Sin of Arrogance" article:

● My reaction to "must be returned" has always been and will remain "like hell it must."

● A nice ploy in cases like Blue Cross is to damage the card or fail to return it. If enough people do this, the system for handling irregularities becomes bogged down and people – hopefully the right ones – begin to ask what in the bloody blue blazes is going on!

Re computerized billing in general:

● Another common cause of grief can be failure to detail information on the bill. A few months ago, my books failed to balance with my bill from Mobil Oil Co. I found that they had failed to credit an overpayment from the prior month.

In checking further, I found that the month before that they had correctly credited an overpayment. The catch is: nowhere was this credit shown as a separate figure! Their accounting manager informed me by letter that this practice was being changed.

Since I avoided Mobil like the plague for several months, I cannot say whether they have, in fact, corrected their procedures.

● Some effective methods for correcting computerized billing problems include writing and, if necessary, phoning the chief of the main office accounting department, the public relations office (this can really be a goody!), or the president of the company involved.

Best results are obtained if you specify the nature of the problem, the corrective action to be taken, a deadline for some sort of response, and that said response should reply specifically to each point you have raised.

H.R. Sides
Senior Programmer/Analyst

I think he is slightly extreme. I don't mind returning a copy of a bill when the also get one to keep for my records, although I understand Sides' annoyance with the word "Must." A simple statement like 'please return' is a lot better, and is accurate. "Must" is bad and inaccurate.

I like his suggestions as to whom to write to, but notice that avoiding the offender is not always possible. He can avoid Mobil gas stations, but I can't avoid the New England Telephone Co., who plays the same game of leaving out essential entries in the billing system.

The company doesn't show what payments have been credited, and it lumps the credits into a single figure which sometimes is understandable, but which often is not. It also plays the game of mislabelling figures. The figure "Previous Balance" is one which has never been shown to you previously at all, so it is not your previous balance.

This again confuses everyone. But, because it has a monopoly, I have not been able to persuade the company to change the system as Sides has apparently persuaded Mobil to do.

Undesirable Holes

Another area which has come in for attention includes those card systems which expect the recipient to sign on the back of the card – and then punch holes all over the area where he has to sign! Dividend systems are particularly prone to this style.

> Alan Taylor, consultant, writer, and former editor of *Computerworld*, is president of Computer Management Aids Corp. of Framingham, Mass.

Whether such signatures, written around the obstacle race of randomly punched out holes, would ever stand up in court, is dubious – suggesting that the system arrogance has an unsuspected (loop) hole as well as those undesirable holes!

These are interesting examples – but the prize, I think, goes to a school report printout which my daughter brought home yesterday. If there ever was a "the public be damned" computer output, this, I think, is it.

It shows that between the school bureaucracy, in combination with data processing, experts have effectively lost all track of humanity. And that, as my wife says, is a pretty awful thing for our schools to do, or for data processors to perpetrate.

The card, reproduced here, uses apparently eight character fields for the teachers' names. That's silly in the first place. Even the use of 10 character fields would have allowed McCallion and Jakubowitz to be humanly treated – and don't tell me that the designer could not have found those two positions somewhere.

Noticeably, the designers themselves print their own name in full on each form; and there are 34 characters in Educators Consultant Service, Inc.

But while this may be bad, at least in these fields they did use as much as was available. In identifying the subjects, they could not be bothered to do even that. If a school system thinks that English is a three-letter word, and that Science isn't worth spelling out, why should they expect their students to bother about learning the subjects (particularly in learning the silly ideas taught in English about how and when to abbreviate)?

Instructions Separated, Ignored

Nor is this the end of the purely data processing faults of this system. The instructions as to how to interpret this did not accompany the report – indeed they were never given to the parents.

About three months ago some of the students received a student directory which did include these instructions. They say, about the effort mark, "the mark is indicated by a number from 1-4, which is located immediately after the numerical grade in the column labelled C." Well, there is no column labelled C.

Some arrogant designer appears to have decided that it would be nicer to use a column labelled E – and did not consider that having given the interpretation in-

STUDENT TAYLOR ALISON J | STUDENT NO. 00587 | YEAR 1976 | HOMEROOM F221 | ATTEND STANDING 11 13 70

WIMBLEDON PARK JUNIOR HIGH

SCHOLARSHIP REPORT — MARKING PERIOD — PERIOD CREDITS

COURSE	TEACHER	1ST QUARTER	CREDITS
ENG	071 STEPHAN	85	3
LIT	072 STEPHAN	85	3
MATH	171 JAKUBOWI	65	2
SOC STUD	271 MCCALLIO	72	2
SCI	371 PROSSER	60	4

CREDITS TO DATE

PARENT SIGNATURE SLIP — TAYLOR ALISON J — FOR THE FIRST QUARTER

SIGNATURE OF PARENT OR GUARDIAN Arthur A. Taylor DATE Oct 25 70

ALL GRADES ARE MACHINE PRINTED. ANY ALTERATIONS MAKE THIS REPORT VOID.

Data Processed School Report. Note the use of eight character fields for teachers' names, even though the form could provide for many more letters to be used. Also note the use of unnecessary abbreviations for subjects, and the use of fine print, inadequate and inaccessible space for parents' comments. This system design tends to reduce the number of comments received by the school, by indicating that the school believes that a 1 in. strip is as much as any parent can reasonably need.

structions out he should obey them. People have to obey rules until they are publicly changed – and computers should do so also. To think, or act otherwise, is pure, ignorant arrogance.

In fact, this report system, based on computers, has removed the possibility of parents receiving individual comments from the teachers, and practically removed the possibility of the parents commenting back.

If you read the fine print on the signature form, you will see that such comments are allowed – on the back of the 1 in. wide strip used for the return signature! That shows just how much value the system designer puts in parents' comments.

With this type of thing representing the advantages of data processing to people across the country, we need no enemies to make ourselves hated. Our "friends" are quite arrogant enough to do the job all by themselves!

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Conference '70 Draws Over 500

NEW YORK – Conference '70, the regional get-together of the Empire Division of the DPMA, flew successfully in the teeth of the FJCC and the economic slump.

Over 500 DPMA members attended the two-day conference, slightly more than had been planned for, and about 40% more than 1969's attendance.

Featuring a keynote address by IBM Vice-President Buck Rodgers and luncheon talks by Navy Cmdr. Grace Hopper, Dr. Charles R. DeCarlo, president of Sarah Lawrence College and former IBMer, and Dick H. Brandon of Brandon Applied Systems, Conference '70 was also the first regional DPMA conference to boast a full program of concurrent technical sessions.

Conference Chairman John J. Wilk said that the sessions were being taped and would be made available.

The Fall Joint had little effect on attendance, Wilk noted. He also suggested that the economic conditions may have prompted people to attend a local meeting rather than travel to Houston.

The Empire Division serves the tri-state area of New York, New Jersey, and Connecticut.

Conference '70 was "very professional," according to DPMA International Vice-President Kenneth W. Sledd, and an excellent warm-up for the international conference scheduled for New York in 1972.

Another international vice-president, Stephen DiStefano, said that 80% of regional DPMA conferences fail to attract the expected number of participants.

The conference had eight sessions featuring such topics as the use of minicomputers for business applications, managing computer programming projects, and designing a common data base for MIS.

COMPUTERWORLD

societies/user groups

Newell Outlines Acpa's Goals

NEW YORK – At the first chapter organization meeting of the Association of Computer Programmers and Analysts (Acpa) last month Chairman William W. Newell outlined the objectives of Acpa as a professional association which "truly represents its members."

In an address titled "Data Processing Professionalism and Acpa," Newell said that the backbone of the industry was the commercial computer programmer/analyst and that he has never been granted full status as a professional.

The programmer's individualistic attitude, he said, "has been the major stumbling block in the path of professionals for the EDP programming specialist."

Stressing that professionalism implies a truly representative association, Newell explained Acpa's aim would be to professionalize the computer programmer/analyst – "its design is to appeal to his unique character and interests."

Acpa's objectives also will be to establish minimum professional qualifications for all programmers and analysts which will have to be met for membership in the association and for future acceptance in industry.

The association will do this, Newell maintained, by careful validation of all member credentials and by qualification examinations for certified memberships.

In fact, Acpa has made the furtherance of EDP education the number one goal for the association, according to Newell, and through its seminars, workshops and publications, intends to rectify the problem.

"Another critical issue that confronts not only the programmer and analyst, but also the entire complex of computer users throughout the country as well," Newell said, "is the lack of uniformity in system applications, computer languages, and equipment operating parameters from installation to installation."

In this regard, Acpa considers software standardization as another of its principal objectives.

Importance of DMS Stressed by Treanor

SAN FRANCISCO – "Data Management Systems (DMS) provide the data processing industry with a structure for changing systems design and programming into a science rather than a mystical, undisciplined art."

So said Richard G. Treanor, director of product development for Western Operations, Inc., at the Western Systems Conference held at the Los Angeles International Hotel.

Treanor discussed "Data Mangement, Fact and Fiction" before a group of 550 leading western systems analysts and data processing people. He reviewed the evolution of the methods of handling data and the file structures involved and discussed how applicable these systems are and the trade-offs involved.

NMA, Canada Group Meet In Ontario, Elect Officers

WINDSOR, Ont. – Installation of officers and an address by National Microfilm Association President George H. Harmon highlighted the November meeting of the Michigan chapter of NMA.

Members of Canada's micrographics group attended. New officers include Arthur Droman Jr., of North American Rockwell, president; Nester Cole, the 3M Co., and John Neitzel, Eastman Kodak, vice-presidents; George Fulton, B.K. Elliot Co., secretary; Marvin Bandlow, county of Oakland, secretary; and Carol Sue Brodbeck of Parke-Davis, and Alonzo Sherman, a micrographics consultant, directors.

Focus 4 Shows T/S Center

WASHINGTON, D.C. – A time-sharing message center developed by Leasco Response Inc. for large conferences was featured at the Focus 4 Convention here. Focus, the Forum of CDC Users, sponsored this international conference, which was attended by members from the U.S., Canada, and the Soviet Union.

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Irwin Says Carriers Will Have to Ask Equipment Bids

By Don Leavitt
CW Staff Writer

HOUSTON – Because carrier affiliates such as AT&T's Western Electric (WE) no longer possess the sole expertise to meet the equipment demands of data users, the carriers should consider competitive bidding from varied sources as a means of acquiring their equipment.

The suggestion was made by Prof. Manley Irwin of the University of New Hampshire in a paper delivered at the FJCC. He added that the user stands to get better, more flexible service at lower cost, as the result of such competition.

In any case, Irwin said, the supply of equipment must expand to meet user's demands over the next decade and the required degree of expansion is 'in obvious conflict' with the monopoly control of telecommunications equipment suppliers.

In the area of hardware development, Irwin said, there are now many substitutes for carrier provided equipment and a proliferation of competitive substitutes and the potential rise of competitive firms is now a process rather than an event.

Irwin noted that over the years, the carriers have assumed that the price and quality of equipment manufactured in-house was "clearly superior" to hardware supplied by outside sources. Regulatory agencies have not effectively challenged the assumption, he said, although they had the right to prevent exhorbitant costs on the supply side from entering the utility base rate and being passed on to the user.

Irwin noted that the FCC has never "found an occasion to disallow prices billed by Western Electric to AT&T" although he said that 65% of AT&T's base rate consists of equipment purchased in-house or through "arms-length bargaining" with WE's subcontractors.

Irwin backed his argument for competitive bidding by pointing to private switching networks (PBX's) as one area in which outside suppliers have already had to be considered by the carriers to meet user's equipment needs.

ICC Offers Two DAA - Type Modems

MIAMI – Two modems from International Communications Corp. are designed for transmitting 2,000 or 2,400 bit/sec data over either dial-up or dedicated lines in a full- or half-duplex mode.

Communications

Called the 2200/20 and 2200/24, the units operate with either manual or automatic answering data access arrangements (DAA's).

The 2200/20 is compatible with WE 201A data sets. The modem can also be used with the Bell Automatic Calling Unit 801 for automatic dialing. The unit offers 2,000 bit/sec dial-up backup when dedicated leased lines fail. It eliminates the need for two separate data sets usually required by the common carrier when dedicated lines are backed up by dial facilities, the company said.

The 2200/24, in dedicated line use, is compatible with WE 201B.

The unit offers 2,400 bit/sec dial back-up over dedicated leased lines, protecting against loss of operation, the company said.

Both units are priced at $2,450 each and are available on a 30-day delivery schedule.

International Communications Corp. is at 7620 N.W. 36th Ave.

Whitehead Vows OTP Will Set Guidelines But Won't 'Meddle'

LAS VEGAS – Clay T. Whitehead, director of the Office of Telecommunications Policy (OTP), told the recent convention of National Association of Regulatory Utility Commissioners that the goal of OTP "will be a series of guidelines that will provide active and meaningful but not meddlesome direction."

He called for effective communication between the regulatory agencies and others in government and industry to effect meaningful policy.

Whitehead said that there were strong pressures arguing for increased government involvement in the telecommunications area. He called for the creation of a regulatory environment in which competition, regulated monopoly and development of new markets foster the public interest.

Computer Utilities Called Vital to Canadian Progress

MONTREAL, Canada – Communications Minister Eric Kierans speaking to a group of bankers here recently, repeated his contention that Canadian ownership of computer utilities in Canada is a vital necessity for the proper growth of the country.

Kierans told the First National Conference of Canadian Bankers that the development of the utilities cannot be determined merely by the local and continental market forces. Although the government has no intention of nationalizing the telecommunications industry, Kierans said that his department does intend to "coordinate" communications efforts in the national interest.

Wants Data Protected

He repeated the concern voiced in the Telecommission's report on communications carriers and data processing services, that there is a serious threat to Canadian sovereignty if data that should be subject to the protection of Canadian laws is allowed to be stored outside her borders. He said that this is what will happen if U.S. computer utilities move in because Canadian industry is not properly developed.

While U.S. dominance of various areas of Canadian life has developed since World War II, Kierans warned that telecommunications and computer utilities are potentially the largest and "most important determinant of the future quality of Canadian life" and thus must be kept in Canadian hands.

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Bits & Pieces

BASF Drive Boasts Dual Spindles

BEDFORD, Mass. — A two spindle version of its 2314-compatible disk drive is available from BASF Systems, Inc.

Identical in performance with the earlier BASF 114, the 214 has its two spindles mounted in drawers, one above the other, in order to provide a more compact unit.

Each disk drive is functionally independent and has its own power supply and control electronics. As many as four 214s can be connected to the Model 1014 controller for a total of eight spindles with a capacity of 233-million bytes.

Purchase price of the two-spindle drive is $35,600. Maintenance is $120/mo. The unit is available on a one-year lease at a price of $900/mo, including maintnenance.

The 1014 controller carries a price tag of $48,500 plus $75/mo for maintenance. The one-year lease is priced at $1,200/mo. The units are available on a 60-day delivery schedule.

BASF Systems, Inc. is at Crosby Drive.

IDADS Drafting System Cuts Drawing Times

MOUNT KISCO, N.Y. — Information Displays, Inc., has developed an interactive automated drafting system. The system can produce complete drawings ten times faster than conventional methods now on the market, the company said.

The IDADS (Information Displays Automatic Drafting System) was designed primarily for non-dimensioned topological drawings such as logic diagrams, schematics, printed-circuit layouts, process-control drawings and PERT charts, but can also be used, the company said, to store and revise old drawings and to generate second-level documentation like provisioning or parts lists.

The software involves a sophisticated disk-based system that makes it possible, even for an operator with no programming experience, to communicate with the computer, according to the company.

The hardware consists of the Idiom computer-driven interactive display system with a 16K, 16-bit-word core memory; a disk pack and tape drives; a high-speed paper tape reader and punch; and an electronic keyboard.

The system is priced at $153,000, with delivery currently estimated at 120 to 150 days.

Information Displays is at 333 N. Bedford Rd.

Printer Features Improved Electronics

NEW YORK — The Shepard Division of the Vogue Instrument Corp. is offering users an improved version of its mini-compatible 880 drum printer.

The Model 880 E features improvements in electronics that permit the cabinet size to be reduced. The print mechanism is capable of handling four hundred 80 character line/min.

As with the Model D, the 880E is compatible with the DEC PDP-8, H-P 2116, Varian 620, and Honeywell H316 and H516 minicomputers.

The price of the 88E is $7,800 ($7,000 without the interface), or approximately $200 more than the prior model. Maintenance is $85/mo.

The printer is available for 90-day delivery.

Shepard Division of Vogue Instrument Corp. is at 131st St. and Jamaica Ave., in Richmond Hill.

General Automation Cuts Price of SPC-12 Mini

SANTA ANA, Calif. — General Automation, Inc. has announced a 30% price reduction for its SPC-12 Industrial Automation Computer.

The price has been reduced from $5,000 to $3,600.

The SPC-12 System I/O adapter has also been reduced in price, from $1,500 to $800. The computer's optional Power Failure Detection/Automatic Restart feature is now priced at $300. Additional 4K modules of memory are available at $1,800.

Two-Year Lease Plan Introduced for Keylogic

WOODLAND HILLS, Calif. — A two-year lease plan that offers users a 20% reduction in price on its Keylogic Terminals has been introduced by the Redcor Corp.

The two-year lease plan offers the central system at $1,800/mo, and terminals at $75/mo, including software and maintenance.

A customer can convert from a monthly lease plan to the two-year lease at any time, the firm said.

Redcor Corp. is at 21200 Victory Blvd.

Price For Source Data Collection System Reduced

NEW YORK — Comperiphserals, Inc. has announced a reduction on the price of its CPI 3100 Source Data Collection System.

As a result of the reduction, a system including a central recording console and ten remote data transmitting terminals is now available at a monthly lease-to-purchase cost of $600.

Comperiphserals is at 437 Madison Ave.

Dual Displays Double Data

Terminal Features Twin CRT's

By Frank Piasta
CW Staff Writer

NEW YORK — A CRT data terminal from Communitype features not one, but two, display units that are selected and controlled by a single keyboard.

The video module of the Model 200 consists of two 9-in. monitors with a capacity of twenty 40-character line/screen. Either or both displays may be selected during an operation.

While data is being received or retrieved on one screen, the operator can simultaneously key in other data through the second screen, effectively overlapping the response time, and increasing throughput, the firm said.

The system could also be used for two different applications simultaneously, or to display data that is too lengthy to fit on one screen.

Dual screen usage is particularly advantageous for applications requiring frequent data interrogation and update, according to the company. These could include hospital patient systems, personnel records, stock control and warehouse inventories, customer service data, and airline arrivals and departures.

The keyboard unit is available in standard typewriter or teletypewriter formats. The character code is Usascii with a 64 character set.

Other features include transmission speed control, full or half duplex transmission control, editing capabilities, cursor addressing, page roll and scroll, and the ability to dump two independent pages of data to two printers simultaneously.

The Model 2000 is designed to be used with ordinary direct-dial or dedicated lines. The terminal will interface with EIA RS 232 B compatible data sets for transmission rates of 1,200 to 9,600 bit/sec, acoustic couplers, and CPU on-line I/O channels.

The price of the Model 2000 Dual Display Data Terminal is $4,150. First shipments are scheduled for January 1971.

The Communitype Corp. is at 767 Fifth Ave.

Path System Combines Mini With Non-Impact Printing

STAMFORD, Conn. — Path Computer Equipment, Inc. has combined its Model 1200 non-impact printer with a minicomputer and a tape transport to produce an off-line printing system.

Called the System 1200, the device is said to increase an installation's computer capability by relieving the central processor of it's printing function.

The printer provides 96 Ascii characters at a rate of 1,200 line/min. Lines are 80 character, or operationally 132 characters, long. Bond paper is roll-fed and automatically cut into 11-in. lengths. Fan-fold paper can also be used.

The printer cannot be used to make multiple copies. But offsetting this somewhat is the ability to print off-set masters directly.

The minicomputer is used as a controller and can be programmed to perform editing functions, data selection, intermixing of data from two or more tape drives, and formatting.

The tape transport provided can read 9-track, 800 bit/in. tapes and is completely IBM-compatible, according to the company. The transport handles half-inch tape reels up to 10-1/2-in. in diameter.

Since the tape system can write as well as read, it can be used to create magnetic tapes. Input tapes can be edited by a variety of programs and rewritten into a standard format for later printout. Up to four drives can be attached.

Standard software supplied with the system includes tape-read, error checking, print, forms control, tape search, and diagnostic routines. An assembler, editor and debugger are also included.

The rental price of the System 1200 is $1,355/mo. Purchase price is approximately $38,000. It is available on a 90-day delivery schedule.

Path Computer Equipment, Inc. is at 65 Commerce Rd.

IDS Controller Adapts 10K Disk To DEC PDP-8s

WALLED LAKE, Mich. — A controller to adapt its series 7,000 or series 10,000 disk files to DEC PDP-8 and PDP-8L minicomputers has been developed by Information Data Systems, Inc.

A new version of the controller the company has previously offered to connect its disks to the Nova and Interdata minis, the 5005-108 is especially suited for operation under severe environmental conditions, such as process-control applications.

The controller's electronics include a 12-bit address register, a 12-bit status register, unit decode, read/write control, data format conversion, OP code decode and control, and memory sequence control circuitry.

Other equipment options include a write lockout feature and the system power supply.

The 5005-108 sells for $3,500. It is available on a 45-day delivery schedule.

Information Data Systems, Inc. is at 7550 Walnut Lake Rd.

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Receive-Only Terminals Boast Low Cost

ANN ARBOR, Mich. – A series of low-cost receive-only CRT terminals from Ann Arbor Terminals, Inc. is designed for data retrieval, data monitoring, and interactive control applications.

The terminals, called the 200 Series CRT Display Terminals, are said to be especially useful in conjunction with a data modem and a Bell Touch-Tone telephone, in configuring low-cost video-answerback systems.

Three models, the 201, 202, and 203, are available. The Model 201 Communications Display features roll-mode operation. The unit's command set includes carriage return, rubout; and a copy command which is designed to facilitate paging and display updating.

Page-mode is used with the Model 202 Computer Display. It features a command-movable cursor and its command set includes cursor move commands, clear screen and, optionally, an insert and delete capability.

Data rates as high as 2-million char/sec characterize the Model 203 High-Speed Display. Updates can be accomplished in as little as 5 µsec.

Models 201 and 202 can be added to a teletypewriter, using the 2-wire line, to provide soft-copy, silent output.

The 203 is adaptable to use in a party line system for multiple display when directly connected to a minicomputer. It also can be used to display data retrieved from a drum or disk without intermediate buffering, the company said. Interfaces available include both parallel and serial.

Without the CRT, the prices of the 201, 202, and 203 are $695, $795, and $695, respectively. A 9-in. CRT adds $110 to the cost. All models are available on a 15-day schedule.

Ann Arbor Terminals is at 918 Green St.

Device Uses Fiche Copy

PALO ALTO, Calif. – A new retrieval terminal which will permit microfilm to be used for real-time applications has been unveiled by Morgan Information Systems, Inc.

The MIS Model 200 uses roll microfiche and can store up to 100,000 pages of computer printout on a roll of 105mm film.

Optionally available are a typewriter keyboard and computer interface to directly access a computer and its memory system.

The Basic Model 200 sells for $4,950. All are available for sale or lease.

Morgan Information Systems, Inc. is at 3197 Park Blvd.

Cardliner Reader Connects to TTY

PHOENIX – A card reader for remote data transmission to central computers is offered by Data Computing, Inc. as a replacement for the IBM 1912, allowing cards to be read and the data transferred to a teletypewriter for transmission.

Cardliner I is plug-to-plug compatible with Teletype ASR-33 and 35 using an EIA RS 232-B interface. It reads Hollerith code in punched cards and translates into Ascii code for transmission over existing Teletype communication circuits. Cards are read at 10 char/sec.

A lease plan is available for Cardliner I, for $90/mo. Delivery on the Cardliner is 30 days.

Data Computing, Inc. is at 2219 W. Shangri La Rd.

HOW do things look for the computer industry as the pause in growth apparently is ending?

The current "Gray Sheet" -- a Midyear Review -- examines the status of each major mainframe supplier and all industry segments. Send for the current issue -- $8. Or, go ahead. A year's supply only costs $75.

EDP industry report

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Speech Stored in Digital Form

MURRAY HILL, N.J. – Scientists at the Bell Telephone Laboratories have developed a method of storing human speech in digital form that requires less storage and permits more flexibility in sentence structure.

Rather than storing the speech patterns for a vocabulary of words in analog waveforms, the Bell system converts words into digits denoting the pitch and the "format" frequencies of the vocabulary entry.

Format frequencies are used to denote the effect that the vocal tract of the speaker has on the sounds produced by the vocal chords.

The new method, according to R.W. Schafer one, of its developers, requires one-fiftieth of the CPU storage previously needed for a given word. One second of speech, he said, would require approximately 1,000 bits of digital storage, compared to about 50,000 bits to store the equivalent waveform.

The digital form in which the data is stored may help to eliminate the mechanical quality characteristic of many current voice-response systems.

When the individual words are retrieved from the vocabulary to be linked together, the parameters of the words are merged and modified, resulting in a more natural sound when the speech is synthesized.

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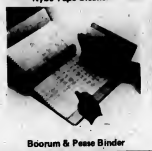

Boorum & Pease Binder

UCM Tape Unwinder

Saphire Blade Used to Clean Tapes

WALTHAM, Mass. – Kybe Corp. has introduced a low-cost magnetic tape cleaner-rewinder which offers a packing wheel and a sapphire cleaning blade for operators of small- to medium-size computer installations.

Users of the TC-10 will have the option of using either a sapphire blade or a high-performance metallic blade.

The TC-10 may be purchased at $1,795 or is available under rental contracts beginning at $75/mo for a 12 month contract.

Kybe Corp. is at 132 Calvary St.

Mag Tape Racks Use Less Space

CHICAGO – A storage system from Product Innovations allow 50% more data to be stored in a given area.

The Stor-Trac Storage system has shelving units mounted on wheels which move laterally on tracks anchored to the floor.

This arrangement eliminates the need for more than one aisle. Any one of the cabinets can be moved to allow access to the shelves. The cabinets are designed so that only a small effort is needed to move them.

Shelf accessories permit adaptation to storage of computer tapes, disk packs, punched card files, printouts and suspended files.

Product Innovations is at 6832 W. North Ave.

Binders For Printouts Offer Cover Choice

BROOKLYN, N.Y. – Boorum & Pease is offering its Dok' umentation binders in a choice of flexible or stiff covers.

Used in the computer industry for the storage of computer printouts, the binders can also be used by executives, accountants and engineers for housing records and work sheets.

The binders are designed to house documentation and source/object listings, the company said.

The company is located at 84 Hudson Ave.

Paper Tape Unwinder Features Center Feed

FLUSHING, N.Y. – High-speed motorized unwinders that feed perforated tape from the center of the roll are said by the manufacturer, Robins Industries Corp. to reduce tape binding or breaking.

Unwinding from the center of the roll precludes the necessity of rewinding before playback, the company said.

Called the UCM services, the machines are designed for the higher speeds used in newer paper tape equipment and can accommodate tape rolls up to 12-in. in diameter.

The list price of the unwinders is $200.

Robins Industries Corp. is at 15-58 127th St.

dp accessories

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Sigma 9 is a powerful computer—up to 2,048,000 bytes of directly addressable memory. It is fast—up to 1,200,000 instructions per second. It performs equally well in transaction-oriented, multiprogramming business environments and in real-time scientific/engineering applications.

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Multi-use. Sigma 9 is a true multi-purpose system. It can perform commercial data processing, scientific operations, extensive time-sharing, and real-time monitoring and control—all concurrently, with responsiveness, flexibility and efficiency. It can be configured to precisely suit each user's requirements and easily reconfigured as needs change or grow.

Fail-soft hardware and software. Sigma 9 is designed for maximum availability. If a failure occurs in an element of the system, the error can be quickly identified and the system reconfigured to continue operating. Parity checking is provided on all bus transmissions. Snapshot registers enable quick diagnoses of error conditions.

More throughput per dollar. Sigma 9 is priced in the medium range, but its performance surpasses far more expensive systems. Its architecture is memory-oriented. All input/output is handled by independent, asynchronous I/O processors, leaving the CPU free to compute. Hardware mapping registers provide highly efficient memory management.

Compatibility and growth. Sigma 9 is upward-compatible with Sigmas 5, 6 and 7. All user software for the smaller Sigmas runs unmodified on Sigma 9, and the peripherals are also compatible. Thus Sigma 5, 6 or 7 users can move up to Sigma 9 without growth pains, and Sigma 9 users can grow too—adding memory, peripherals—and eventually even CPU's, for Sigma 9 is designed for multi-processing.

Sigma 9 deliveries will begin in mid-1971, but you needn't wait to enjoy the unique Sigma advantages. You can order a Sigma 9 now, and we will install a Sigma 7 immediately. Then when your Sigma 9 is ready you can switch over without missing a byte.

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The computer is no longer an abstract notion in the corporate scheme of things. Yet, to many managers it still remains a modern day enigma. To others, the computer is a means to a new title.

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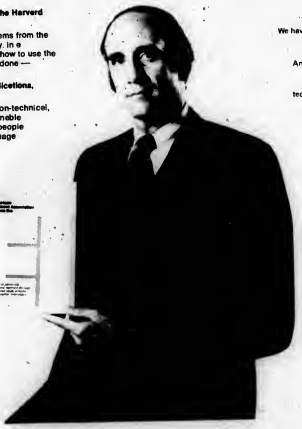

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We have often seen consultants' reports which relate the success of computer utilization to the degree of top management participation in defining the systems requirements.

And since the full impact of the computer has yet to be felt on management operations, it is equally important that a thorough understanding of modern management techniques and objectives exists at all levels of management.

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Honeywell-CDC Pact Allows H-200 to Cybernet Tie-in

By Don Leavitt
CW Staff Writer

MINNEAPOLIS – Users of Honeywell's H-200 series installed in-house or at HIS Information Services Operation (ISO) centers, will be able to access the remote batch capabilities of Control Data's Cybernet time-sharing network, under an agreement recently signed by Honeywell and CDC.

Under the contract, CDC is writing a computer simulator that will enable any HIS series 200 computer to communicate with Cybernet facilities via the AT&T switched network. The communication link is scheduled for completion by January.

With the computer link in place, CDC said, Honeywell ISO users can avail themselves of the processing power of Cybernet's CDC 3300s or 6600s for large scale scientific computing and large data handling chores. Honeywell ISO now offers primarily commercial data processing and conversational T/S services.

Intended for use by the Honeywell users, the simulator package can be installed on an in-house H-200 as easily as on the machines at the ISO centers. A CDC spokesman said, this would also provide expanded processing capabilities to the in-house H-200 user, who is not an ISO subscriber.

The software being written by CDC is not intended to allow programs developed for the Honeywell system to run on Cybernet. Rather it makes the H-200s "look like" Cybernet terminals to the CDC equipment.

Whether working from in-house or from an ISO center, the user will have to modify or rewrite any programs developed for the H-200 if they are to be used on the Cybernet machines. Alternatively, he will be able to use the library of application and engineering programs available from Cybernet.

Honeywell's ISO currently operates 16 computer centers utilizing H-200s and H-1648 time-sharing systems. Cybernet in the United States has seven CDC 6600's and five CDC 3300s, serving some 400 batch terminals via 12,000 miles of leased telephone lines.

Users who access eCybernet through ISO centers will be billed for the time used by Honeywell. Users of in-house H-200s may have an option of whether they will be billed by Honeywell or Cybernet.

Rates for the new service have not yet been set, according to a company spokesman.

Task/Master Helps User Build, Control On-Line Applications for Data Systems

NORWALK, Conn. – A telecommunications monitor, Task/Master, can be used with "any" operating system, and allows the user to develop and control multiple applications according to the developer, Turnkey Systems Inc. (TSI).

Task/Master provides basic communications support including terminal initialization, message switching, assignment of priority of response by application, and symbolic storage and retrieval of work areas. The monitor also provides error recovery, overaly control, and can be used in both batch and conversational modes.

The monitor operates on any data processing system that has 32K bytes of main storage, or the equivalent, standard compiler and linkage support, and one or more direct access devices. At least one communications link is also required.

Task/Master provides support for developmental work in two different but complimentary ways. The system allows off-line application testing so that work can be done without tying up terminals.

Application programs can be written in any of the high-level languages, including Cobol, and can be added or changed even after implementation, without modifying Task/Master, TSI said. Task/Master is not limited to use of IBM equipment but is said to function under any operating system in either a stand-alone or a multi-programming environment.

Task/Master may be customized to operate in as little as 12K bytes under DOS/360, but a more typical partition size, for sensitive applications using multiple files, would be 32K.

The full Task/Master system may be purchased with a three-year warranty for $20,000 or leased for $450/mo under a three-year agreement.

A DOS 'starter' version is available under a $200/mo 30-day lease. A fixed installation charge of $1,000 includes one week of on-site assistance.

Turnkey Systems Inc. is at 111 East Ave.

ANSI Proposes Identification Standard

WASHINGTON, D.C. – The American National Standards Institute's X3 Committee has okayed the circulation of a proposal to identify individuals in standardized computer information interchanges.

The proposed identifier field is made up of two parts. The Social Security number must be coupled with a carefully defined name field for proper identification. Either element by itself should be considered insufficient to allow the information exchange, according to the proposed standard.

However, because some individuals either have no social security number or refuse to disclose it, organizations are allowed, under the proposal to use a substitute numeric identifier, as long as both parties of the exchange agree to the substitution.

The committee said that it considered two other possible forms of numeric identifier before agreeing on the use of the social security number. A unique assigned number was deemed unworkable because it would require a massive centralized office to insure against duplication.

ANSI has set a four month review period of the proposal prior to a letter ballot by the committee.

Copies of the proposed standard may be obtained from the Business Equipment Manufacturers Association, 1828 L St. N.W., here.

APL Processor Enhancements Are Accessed On Net, Used In-House

WASHINGTON, D.C. – Users can access an enhanced APL processor on the APL Plus time-sharing network, or purchase the improvements from Scientific Time Sharing Corp (STSC) for in-house use.

APL can run 40% to 50% faster on the 360 as a result of modifications made by STSC in the IBM APL package, a spokesman claimed.

The modifications involve a redesign of the 'syntax analyzer,' a central component of the APL processor. No changes to user programs are required by the new syntax analyzer, the company said.

STSC's APL Plus system contains other proprietary enhancements to APL: a File Subsystem, which allows direct access to large shared files; a function for easy report formatting; support for CRT's and digital plotters; and a tabbing facility that automatically speeds printing on Selectric terminals.

STSC noted that to utilize its enhanced APL, a user should have a 256K 360/40 with a 2700 telecommunications control unit and either a 2311 or 2314 disk unit. Implemented on a 393K 360/50, the system would allow the user a 100K or larger batch background partition in addition to multiple "workspaces" for APL programs.

The cost of providing the enhanced APL for in-house use depends on the options the user wants. An STSC spokesman said that the File Subsystem, for example, is available for $12,000/yr.

The company noted that the user would be expected to contact IBM for the basic APL package.

Scientific Time Sharing Corp., and the APL Plus time-sharing network, is at 2101 S Street, N.W.

Users Can Store Multiple Object Program Images With 'Auto-Cat'

NEW YORK – Inexpensive in both core and price, Auto-Cat is an automatic cataloging utility package for DOS/360 users, from Mnemotech Computer Systems.

Occupying only 4K of core, the Auto-Cat program allows the user to perform any of several operations on his source programs. He can compile his program and/or catalog it onto a source statement library. If the program is compiled under Auto-Cat control, the user can call for an object-deck to be punched, or have the object module posted to any desired partition on the core-image library.

The compilation/assembly phase, including object deck creation utilizes standard IBM-supplied language processors for RPG, PL/1, Assembly, Cobol or Fortran.

The object module cataloging can be used to simultaneously locate the program in any or all background or foreground partitions. Separate program images do not require separate cataloging runs, the firm said.

There is no updating internal support for the source statement library in the current version.

Priced at $950, Auto-Cat is available from Mnemotech Computer Systems at 55 Liberty Street.

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Facilities Management-Part IV

How Jobs Are Done Is Not User's Affair

By Malcolm L. Stiefel
Special to Computerworld

In all facilities management contracts, the facility manager promises to deliver certain kinds of processed data, on a regular schedule, provided he is given the required raw data. The facility manager does not promise to use specified hardware or software; he does not say how he's going to do the job; that's none of the user's affair.

In almost every case, the facility manager is obligated to hire the user's data processing personnel; in some cases, he will also take over ownership or rental of the user's equipment.

The contract should obligate both parties to an on-going consulting activity at several levels of the user's organization, from the president on down, so that the facility manager can be in continuous direct contact with the actual users of the data.

Manager Moves In

On day one, our typical facility manager will acquire the user's keypunches, programmers, computer operators, and data processing manager. No one gets fired (in most cases).

The facility manager institutes some simple management controls, if necessary, to keep track of the new employees' time. This is a get-acquainted period, and the new manager must find out, as soon as possible, who is working and who isn't.

Depending on his resources, the facility manager will start training the new hires, during part of their working day. Some may be sent to a training center.

> Facilities management has been described as data processing services combined with management consulting. But a universal definition does not exist.
>
> In this series, CW examines this growing field in some detail, describing how facilities management works and its impact on the user.

From the start, the facility manager will be moving through the user's departments getting acquainted, making friends, observing operations, uncovering sources of problems.

As early as possible, the facility manager will establish and meet rigid schedules for receipt of inputs and delivery of outputs to the user. In many instances, this will give the user results he couldn't achieve in-house.

Along the way, the facility manager will look for minor changes that can be made in the user's software to reduce manual handling or speed up program execution. The manager may ask the user to modify some of his procedures to eliminate steps in the information flow, to reduce the error rate, and to increase throughput.

After 3 to 6 months, the user can expect to be getting his reports on time with an acceptable degree of accuracy. (If not, the facility manager is in trouble). By now, the new manager is part of the team, he knows the user's operations, and he's ready for the next step.

The Revolution

The facility manager has been preparing a New System (NS) design, which he now springs on the user, who has been waiting for it since day one. Until now, the changes have been gradual, nontraumatic. But now comes the revolution.

The NS is completely different from the Old System (OS). Everyone in the plant gets a CRT/keyboard terminal, which is hooked to some mysterious, unseen remote device that is meant to inhale data and exhale printouts.

Sometimes the data remains on cassettes or reels of tape or disk packs or punched cards within the plant, until it is removed in the middle of the night by a phantom who works for the facility manager.

The system is designed, of course, to save the facility manager some money, to enable him to re-use software developed elsewhere, and to further improve the user's operation. The user no longer needs to pay for any data processing equipment.

But the changeover is slow. Errors arise, as they always do during file conversion. Procedures are changed, then changed again. Terminal equipment fails. Repairmen come and go.

Through it all, the facility manager is there every day as usual, reassuring the user, maintaining a dual operation as long as necessary.

If the NS is well constructed, everyone lives happily ever after. The user, though, is locked in. His procedures now depend heavily on the facility manager's equipment and software. If a rift should occur after the NS starts, the user may have to scramble a bit to get the OS, or some other system, in operation.

Of course, the upheaval doesn't always happen. In a small company, it may not be necessary.

There are other variations on this theme. Truly, the situation in every user's plant is unique.

Malcolm L. Stiefel is an independent consultant with extensive experience in systems anelysis, design and evaluation.

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Australia Studies Flavor Components

NORTH RYDE, New South Wales, Australia — An investigation to determine the characteristics of flavor components in foods, and their behavior during the preservation process, at The Division of Food Preservation here, is using the largest DEC PDP-15 computer in this country, according to the company.

The Australian Government agency-sponsored project uses the computer to perform highly complex chemical analyses employing analytical techniques of mass spectrometry and gas chromatography. The computer is designed to accept data from a mass spectrometer and up to 18 gas chromatographs operating simultaneously.

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Searcher Detects Magnetic Object

RESTON, Va. — A new magnetic searcher that detects ferromagnetic objects on a person passing through a doorway has been introduced by Schonstedt Instrument Co.

The new searcher, designated Model SD-2 Magnetic Surveillance System, consists of two stands containing sensitive magnetic-field sensors, an electronic unit, and a signal bulb. Magnetic material carried by a person passing between the stands lights a bulb at a remote station.

The SD-2 Magnetic Surveillance System is available from Schonstedt Instrument Co., 1775 Wehle Ave.

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CI NOTES

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Fabri-Tek Head Brady Resigns for Josten's Post

MINNEAPOLIS — Fabri-Tek President T.E. Brady has resigned his position to become vice-president, finance, for Josten's Inc. He will continue on the board of directors of Fabri-Tek. M.F. Mickelson, chairmen of the board and founder of Fabri-Tek, will resume the position of president.

Quantor, Tokyo Labs Agree

SUNNYVALE, Calif. — Quantor Corp. has named Tokyo Electron Labs, Inc. as its exclusive distributor and service agency for Japan.

CI Supershorts

Tally Corp. has acquired the product lines of Vanguard Data Systems, Inc. Vanguard manufactured the Datascribe line of key-to-tape recorders and associated pooling and data communications systems.

Computer Microtechnology, Inc. of Sunnyvale, Calif., has reduced the price of its 4,096-bit read/write memory module, the CM 2400-series. Originally priced at $1,200, the CM 2400 ranges from $400 in 1-10, to 100-lot quantities at $260 each.

— — —

Iomec, Inc. will provide users of its Iodisc data storage systems with 3M's 'Scotch' Brand disk cartridges.

Computing and Software, Inc. has received a contract under which it will furnish Federal Housing Administration lenders with credit information and financial reports on residents in Los Angeles and Orange counties.

— — —

The Snively Financial Organization, Inc., Carefree, Ariz., is gearing its rental-financing service to a nationwide market of manufacturers of biomedical, ecological, and computer peripheral equipments.

Doughnut Mover

Closeup of 5,000 core/min handler for which IBM has been awarded patent. Doughnut-shaped ferrite cores in bowl at left are drawn by vacuum into transport "nests" on the wheel and rotated to test station, where cores are checked for electrical qualities. Pencil (used for size comparison) points to core handler's needle-like probes, which pass through center of each core. Above probes are internally mounted springs that provide driving and return action of probes. Tubes in foreground are accept and reject tubes for cores that have been tested.

Memorex Sued by IBM, 2 Plaintiffs Consolidate

CW Washington Bureau

IBM had new action on the legal front recently, with its filing of a "trade secret" suit against Memorex, and the consolidation of the antitrust suits filed last year by Control Data Corp. and Greyhound Computer Corp.

In the Memorex suit, IBM charged wrongful appropriation and use of IBM trade secrets and confidential information.

The action seeks to enjoin Memorex and Peripheral Systems Corp., its wholly owned subsidiary, from "continued use" of IBM trade secret information and from seeking to hire IBM employees for the purpose of obtaining confidential information.

The complaint also asks that Memorex be ordered to return to IBM all documents, writings or drawings which contain IBM trade secrets or confidential information.

The suit was filed last week in the Superior Court of the State of California, Santa Clara County.

The two antitrust suits were consolidated for pretrial hearings before Judge Philip Neville in the U.S. District Court in Minnesota.

The U.S. Judicial Panel on Multidistrict Litigation ruled that the Greyhound suit against IBM, pending in the northern district of Illinois, be moved to Neville's court to be heard along with Control Data Corp. action.

Both suits, said the judicial panel, present actions involving "common questions of fact concerning IBM's monopolization of the computer field."

Auerbach Points Out Information Processing Faults

PHILADELPHIA — Information processing is currently riding on the horns of a dilemma, according to Isaac L. Auerbach, president of the Auerbach corporations of Philadelphia, Pa.

Addressing the tenth anniversary celebration of the International Federation for Information Processing held in Amsterdam, The Netherlands, Auerbach elaborated:

"Rapid advances in computing hardware have outdistanced any development in the methodology, technology and theory of information systems.

"Information systems design has failed to keep pace with the capabilities of computers and the demands of its users, causing a problem of crisis proportion for the information processing industry.

"It is difficult to speak about information as information without reducing it to data processing terms and, as a consequence, we often impose an inelegant or restrictive solution in the very way we pose the problem. The result of this," said Auerbach, "is that unique systems are built which are not adaptable to different problem environments. Too much stress has been placed on speed of computation, at the expense of structural modularity."

Adapso Says Industry Revenue Up

NEW YORK — Adapso's Fourth Annual Computer Services Industry Study has shown total industry revenue in 1969 was $2.04 billion, an increase of 28.5% over the 1968 revenue. Projected revenue for 1970 and 1971 is expected to continue at the growth rate of 20% to 30% each year.

In 1969, the computer services industry consisted of 1,150 firms which operated 3,079 offices in the U.S. The number of offices was 40% greater than in 1968, with the number of firms down 18%, according to Adapso.

In 1969, companies in the industry employed 120,000 persons, served 220,000 customers and operated 2,850 computers.

The computer services industry consists of firms engaged in data processing, timesharing and software.

The study may be obtained at $15/copy by writing to Adapso, 551 Fifth Ave.

Bell Labs Expands Research On Magnetic Bubble Memories

MURRAY HILL, N.J. — Bell Labs scientists, working toward cheaper and more easily manufacturable magnetic bubble memories, have for the first time grown homogeneous uniaxial magnetic garnet films using liquid phase epitaxial techniques useful in these devices.

These magnetic films have already been used in shift registers with over 100 working steps. It is predicted that, as small scattered imperfections are eliminated, much larger shift registers will be produced.

The experimental shift registers were made in T-Bar and Y-Bar circuit patterns, which were used to control and manipulate the bubbles within the film.

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Mini Controls OCR System

HORSHAM, Pa. – A minicomputer's ability to serve as a cost-reducing, integrated system controller for OEMs has allowed OCR Systems, Inc. to produce an off-line optical character recognition system at possibly half the cost of similar systems while offering high speed and efficiency.

The OCR System 1000 document reader incorporates a 4K, 16-bit word Varian 620/i as a completely digital system controller, assigned overall tasks such as controlling a mechanical document feed system, scanning format control, character scan data interpreting, DP error checking, sequencing and code converting.

One of the chief features of the OCR System 1000 is the firm's proprietary recognition module, which connects the video and the Varian mainframe portions of the system. Able to recognize standard OCR industry formats as well as numerical handwriting with a No. 2 pencil, the recognition module is said to free the 620/i for computational and chracter interpretation chores.

The computer treats the recognition module as a peripheral and requests it to recognize characters' key features. The mini receives this information as a binary number, called a "score."

The system can process up to 24,000 document/hr, accommodating document sizes up to the standard 8-1/2-in. by 11-in., the firm said.

DP Utilization Stirs Discord in Israel

CW Washington Bureau

WASHINGTON, D.C. – Israel seems to be suffering the growing pains associated with the computer business.

A disagreement has arisen regarding computer utilization, according to Aron Gertz, coordinator of Ittam, a government-sponsored company. The Central Service Bureau (CSB) of the government wants to centralize EDP activities in one or two computers which would be time-shared by various agencies, Gertz said in a Washington interview. About 60 computers are currently in use in the Israeli Government, he added.

Although Gertz admitted that many of the total of 172 computers in use throughout Israel are not well utilized, he said he felt CSB's concept of computerization is unwise. Israel ranks 17th in computer usage.

Gertz, in the U.S. for meetings with computer people and to view sophisticated EDP installations here, said Ittam was formed to promote the Israeli software industry abroad. As yet, the Israelis have not exported any packages, but Gertz said that perhaps some scientific programs will be ready next year.

"There are some 20 software houses in Israel," he said, "but only about five of them have about 30 professionals each." The government, he added, is prepared to invest up to 50% in development costs for each package that is sold abroad.

Most computers in use in Israel, Gertz said, are geared to business DP and are imported from the U.S.

There are some 5,000 people in the computer business in Israel today and a shortage exists among highly skilled programmers and systems analysts – those with five to six years of experience. Gertz said Israel is trying to recruit 150 to 200 experienced American DP personnel to come to Israel.

ISS Offers Disk System

CUPERTINO, Calif. – An 11-high disk drive with integrated controller, Information Storage Systems' 724 Data Storage System, is designed for use with small- and medium-size computers and gives systems manufacturers the ability to add high capacity single-unit storage and control to their computers.

The ISS 724 offers a storage capacity equivalent to 23.5 million bytes, but can be expanded.

The ISS 724 interface renders it compatible with a variety of minicomputers and is adapted to most others employing a 12- or 16-bit basic word structure assuming they are capable of accepting a data rate equal to or greater than 312,000 byte/sec, according to the firm.

The ISS 724 is priced at about $18,000 in quantities of 100. Availability is 90 days or more from 10435 N. Tantau Ave.

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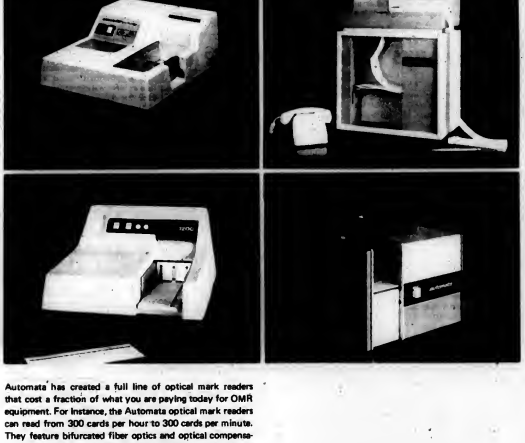

Automata has created a full line of optical mark readers that cost a fraction of what you are paying today for OMR equipment. For instance, the Automata optical mark readers can read from 300 cards per hour to 300 cards per minute. They feature bifurcated fiber optics and optical compensation electronics to provide superior data optical reading integrity. Add to that the solid state, integrated construction and only three moving parts and you have outstanding reliability. This is available to you at the unbelievably low price of $1000 in OEM quantities, depending on the options. Contact Bob Sprehe at Automata to see how simply the Automata Optical Mark Readers can be adapted to your OEM requirements. Think what you will save (and time is money).

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Tally BP-30 Perforator

Tally R-5000 Photo Reader

Lindly Hole, Void Detector

Bertan 620 CRT Power Unit

Mite 123P Page Printer

Tally Produces Photoreader, Perforator

KENT, Wash. – A small, low-cost perforator offering an asynchronous punching speed of 30 char/sec and selling for $400 has been unveiled by Tally Corp.

Known as the BP-30, the new perforator is especially well suited to the "business machine environment because of its compact and lightweight size. The need for periodical mechanism maintenance common to most perforators has been avoided.

Capable of operating at nearly any angle, the bidirectional perforator punches 5- through 8-level tapes. In addition to the basic mechanism, the perforator can be obtained on a 19-in. panel with take up and supply for 1,000 ft of tape.

Tally also has a new low cost bidirectional 800 char/sec photoreader which uses a new patented bifurcated fiber optic reading technique.

Using the new fiber optic technique, the unit interchangeably reads tapes with varying degrees of opacity up to 70% transmissivity, including oily, dirty, or discolored tapes.

Price of the new Tally R-5000 Reader with integral reeling and DTL/TTL compatible electronics is $1,500.

The reader at all standard tape widths operates at speeds up to 300 char/sec asynchronously, up to 500 char/sec continuously with stop on character, and at 1,200 char/sec in the search mode.

Tally is at 8301 180th St.

Holes, Voids Detected With Optical Scanner

MINEOLA, N.Y. – Lindly and Co., Inc. has a hole and void detector for magnetic tape.

The instrument is composed of a series of optical inspection assemblies, each examining a 2-in. wide section of the unslit sheet.

The inspection assemblies carry the light sources, special optics, solid state transducers and preamplifier circuit boards. A change occurs in the amount of light, both transmitted and reflected, striking the receiver, when a hole or thin spot passes through the inspection area. This change produces an AC signal, which is amplified and fed to an indicator.

Lindly is at 248 Herricks Road.

Multiple Output Power For High Quality Displays

PLAINVIEW, N.Y. – A triple output precision high-voltage power supply is designed specifically for high data density CRT displays and CRT photocomposition applications.

The Model 620 provides an anode supply of up to 20 kVdc, a focus supply which is remotely programmable up to 5 kVdc, and a grid supply of up to 500 Vdc.

Standard unit cost is $685 in single quantity and is available from stock.

Bertan Associates is at 15 Newtown Road.

Multi-Copy Page Printer Small and Lightweight

NEW HAVEN, Conn. – The 123P page printer, designed especially for use in portable page copy computer access terminals, is now available from the Data Products Division of the Mite Corp.

The Model 123P is 2-3/4-in. wide, 9-in. deep and only 9-3/4 lb. Depending on the quantities, unit cost ranges from $414 to $294.

Maximum operating speed is 11 char/sec, 80 char/line.

Mite Data Equipment Division is at 446 Blake St.

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Batch processing keeps the computer efficient. But more and more universities are discovering that timesharing keeps the users efficient. And with a PDP-10, you get the best of both worlds – timesharing and batch processing simultaneously. Plus real-time.

And the economics of having a PDP-10 will be another surprise. As a rule of thumb, if your university rents 20 timesharing terminals, you could own the PDP-10 for the same fees.

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COMPUTERWORLD

financial

Tally '70 Sales, Profitability 'Improved Substantially'

KENT, Wash. – Peripherals-maker Tally Corp. "has improved substantially its sales and profitability in 1970 despite the downturn in new business currently plaguing many companies in the industry," according to President James E. Navarre.

He did not disclose any figures.

"Tally sales for the first nine months of this year were equal to all of last year," reported Navarre, "and the addition of . . . new products for delivery starting in late 1970 will keep us on track toward achieving a dominant position as an independent company in the computer peripheral equipment field.

"The present depressed business climate, the economies of scale associated with sales and service, and the need for sound long-range financial planning and control is forcing a contracting of the numerous companies populating our industry."

Six new products concerned with paper tape readers and perforators and data communication equipment are to be introduced this month.

According to Richard L. Given, vice-president of marketing, "This is the first upgrading of our product line in over five years, and was predicated upon long-term and extensive knowledge of our customer requirements."

CSC Obtains Loan Commitment

NEW YORK – Computer Sciences Corp. has increased its line of credit by $6.5 million.

The arrangement is a new term loan commitment from three major banks, increasing its present short-term bank indebtedness from $23.5 million to a $30 million term credit coming due periodically throughout March 31, 1974.

CSC President William R. Hoover said the additional money will be used to develop Infonet, the firm's information network service.

The participating banks were First National City Bank of New York, Bank of America, and the First National Bank in Dallas.

4th Quarter Earnings Fall for Varian

PALO ALTO, Calif. – It was not a very good year at Varian Associates.

Indicated earnings and sales for the fourth quarter ended Sept. 30 both wilted, and company officials say that fiscal 1971 is starting just as poorly.

Fourth quarter net is indicated to be $326,000, or five cents a share, down from $1.9 million, or 28 cents, last year. Sales inched down to $48 million from $49.8 million a year earlier.

Net for the full year is $4.7 million or 68 cents a share, down from $6.3 million, or 93 cents, in 1969. Sales for the year were up to $196 million from $190.4 million.

According to Varian Chairman Edward Ginzton, the increase in sales for the year came almost entirely from international sales. He attributed the poor showing to severe price competition, high interest rates, and the general economic slump.

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Earnings Reports

BRANDON APPLIED SYSTEMS
Six Months Ended August 31

	1970	a1969
Shr Ernd	$0.06	
cRevenue	$1,627,764	1,445,686
Spec Chg	d228,106	e20,200
Earnings (Loss)	(725,510)	779,327

a-Includes company, acquired in January 1970, on a pooling-of-interests basis. b-Based on income before tax credit and on common and common equivalent shares. c-From continuing operations. d-Consists of a $181,106 loss from the sale of four wholly owned subsidiaries and $37,000 reserve against note receivable. e-Tax credit. Equal to 8 cents a share.

VARIAN ASSOCIATES
Year Ended Sept. 30

	1970	a1969
Shr Ernd	$0.68	$0.83
Revenue	195,960,000	190,433,000
Spec Cred	.....	c1,026,000
Earnings	4,708,000	47,960,000

a-Restated. b-Based on income before special credit. c-From sale of property. d-Equal to $1.08 a share.

HUDSON LEASING CORP.
Three Months Ended Sept. 30

	1970	1969
Shr Ernd	$.37	$.41
Revenue	7,558,106	5,312,532
Earnings	878,891	625,301

COLLINS RADIO CO.
Three Months Ended Oct. 30

	1970	1969
Shr Ernd	.....	$.18
Revenue	$77,071,000 *	$0,883,000
Earnings (Loss)	(1,040,000)	532,000

COMPUTER INSTRUMENTS CORP.
Ten Months Ended Oct. 9

	1970	1969
Revenue	$3,904,051	$5,349,042
Loss	383,075	188,270

AMPEX CORP.
Three Months Ended Oct. 31

	1970	1888
Shr Ernd	$.08	$.40
Revenue	76,432,000	80,713,000
Earnings	861,000	4,333,000
9 Mo Shr	.13	.69
Revenue	138,960,000	149,258,000
Earnings	1,380,000	7,426,000

COMPUTER COMMUNICATIONS
Three Months Ended Sept. 30

	1970	1969
Shr Ernd	.....	$.10
Revenue	$1,498,377	2,290,793
Earnings (Loss)	(181,268)	116,892

SANDERS ASSOCIATES INC.
Three Months Ended Oct. 31

	1970	1869
Shr Ernd	$.04	$.02
Revenue	37,709,000	36,385,000
Earnings	139,000	87,000

DIGITRONICS CORP.
Six Months Ended Sept. 30

	1970	1888
Shr Ernd	.....	e$.11
Revenue	$8,613,497	8,764,575
Tax Cred	.....	300,000
bEarningd (Loss)	(559,134)	c625,731

a-Based on income before tax credit. b-After reserves totaling $1 million in 1970 and $200,000 in 1969, which have been established to provide for potential writedowns of slow-moving inventories and possible bad debts.

(Continued on Page 31)

Nickels and Dimes

Viatron Computer Systems is running down to the line.

The company revealed last week that it was unable to pay the $467,000 interest due on its convertible debentures. Viatron has a 30-day grace period before it is technically in default on the instruments.

A spokesman said that Viatron was working on a plan to offer common shares in exchange for the debentures.

In its three-year history, Viatron has obtained capital of about $36 million through stock and debenture sales. Now it can't come up with something less than a half million. So it goes.

$$$

Tacking carefully over rough financial waters, Com-Share seems to have sailed one leg closer to smug harbor. The service bureau has induced Bliss & Co. of St. Paul to exchange a $500,000, 6-1/2% convertible debenture, thereby getting rid of a long-term liability and drain on cash. The price was sweetened redemption terms, dropping the conversion price from $21.56 a share to $7.50, upping the number of shares from 23,188 to 66,667.

Com-Share also gave Bliss warrants to buy 50,000 shares at $7.50 until November 1973, and at $11 a share until November 1975.

The conversion increases the number of outstanding Com-Share shares from 770,547 to 837,214, a dilution of 11.5%.

$$$

Revenues inched down in the third quarter at Tracor Computing, but the operating loss was cut to almost half the level of the year earlier period.

Third quarter revenues were $2.04 million, off from $2.12 million, and the operating loss was $433,000, well down from $839,000 in 1969.

$$$

While revenues for the first quarter grew 41% at **Hudson Leasing**, profits slipped from $625,301 to $575,691.

Revenues grew from $5.4 million to $7.6 million. On a per share basis, earnings fell from 41 cents to 37 cents.

The diversified leasing company noted that it had increased its investment in Telex peripherals from $2.5 million to $3.5 million during the quarter.

$$$

A slight slip in sales, a healthy jump in reserves for potential writedowns, and a loss instead of a profit are the main points of the first half story at Digitronics.

While gross revenues were essentially flat - $8.6 million against $8.8 million, a net profit of $625,731 turned into a loss of $559,134 after establishment of reserves of $1 million for bad debts and slow moving inventory.

$$$

And in the continuing story of who does what with which to whom in Dalles, UCC has sold Alcorn Combustion and Bell Equipment to James J. Ling, or more precisely, Ling's Omega-Alpha, Inc.

UCC acquired the two companies, which make oil refining equipment, cranes, air compressors, and so on, from Ling-Temco-Vought in the deal that brought UCC Computer Technology, Inc.

For Alcorn and Bell, UCC was paid a package of nonvoting convertible preferred stock, debentures, and warrants of Omega-Alpha, not to be confused with another Ling holding company, Alpha-Omega.

UCC said it wouldn't have any hand in managing the companies.

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By now, the implications are clear: If you have the people-skills, technical potential and inherent drive, we have the opportunity. You'll need a BA, BS or equivalent schooling/experience, preferably in math, engineering, computer science, economics or marketing. (And, while experience in time-sharing FORTRAN or BASIC programming, EDP or industrial selling isn't a must, it would be a plus.)

Current openings are in major Midwestern and Eastern cities: Detroit • Cleveland • St. Louis • Chicago • Milwaukee • Philadelphia.

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Computerworld Stock Trading Summary

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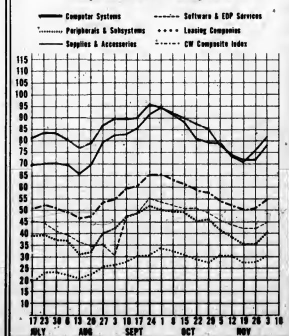
EXCH		PRICE: 1970 RANOE (1)	CLOSE OEC 03 1970	WEEK NET CHNGE	WEEK PCT CHNGE
	SOFTWARE & EDP SERVICES				
G	AOVANCEG COMP TECH	1- 6	1 3/4	0	0.0
A	APPLIED OATA RES.	4- 24	5	- 1/4	-4.7
G	APPLIEO LOGIC	1- 19	7/8	0	0.0
O	ARIES	1- 8	1 1/2	- 1/4	-14.2
N	AUTOMATIC OATA PRGC	23- 48	46 3/8	+3 1/8	+7.2
O	AUTO SCIENCES	3- 14	4 1/4	- 3/8	-12.8
O	BRANDON APPLIEO SYS	1- 9	1 1/4	+ 1/4	+25.0
G	COMPUTER AOE INOUS.	1- 3	3/4	0	0.0
O	COMPUTER ENVIRGN	2- 14	1 1/2	0	0.0
G	COMPUTER INOUS.	2- 10	3	+1 1/2	+42.8
G	COMPUTER NETWORK	2- 14	2 1/4	- 3/4	-25.0
O	COMPUTER PROPERTY	5- 13	5 3/4	0	0.0
N	COMPUTER SCIENCES	6- 34	11	+1 1/2	+15.7
O	CGMPUTER TASK OROUP	1- 4	1	- 1/4	-20.0
O	CGMPUTER USAOE	2- 8	4 3/8	+ 1/4	+9.0
A	COMPUTING & SOFTWARE	16- 75	32 7/8	+3 3/8	+11.4
G	COMRESS	1- 10	1 5/8	+ 3/8	+30.0
G	COMSHARE	2- 15	4	+1 3/4	+77.7
O	CONSGL. ANAL. CENT.	1- 3	3/4	0	0.0
O	OATA AUTGMATION	1- 24	1 5/8	+ 1/8	+8.3
G	OATA PACKAGING	5- 29	5 3/4	0	0.0
G	OATAMATION SERVICE	1- 6	1 1/2	+ 3/8	+33.3
G	OATATAB	4- 9	3 7/8	- 1/8	-3.1
G	OIOITEK	1- 5	1	- 1/8	-11.1
O	EOP RESGURCES	5- 13	6 3/4	+ 1/2	+8.0
A	ELECT COMP PROO	3- 11	3 5/8	+ 3/8	+20.8
G	ELECTRONIC OATA SYS.	31-161	61 1/2	+1 1/2	+2.3
G	INFORMATICS	4- 21	5 5/8	- 3/8	-10.0
A	ITEL	6- 26	16 7/8	0	0.0
O	LEVIN-TOWNSENO SERV..	1- 13	2 1/4	0	0.0
A	MANAGEMENT GATA	8- 23	8 1/2	- 3/8	-4.2
G	NAT CGMP ANALYSTS	1- 8	1 3/4	- 3/8	-17.6
G	NAT.COMP. SERV.	2- 12	3 3/8	+1	+42.1
N	PLANNING RESEARCH	13- 54	18 1/2	+ 3/4	+4.2
O	PRGORAMMINO METHGGS	9- 27	16	- 1/2	-3.0
O	PRGORAMMINO & SYS	2- 5	2	0	0.0
L	PROGRAMMING SCIENCES	1- 33	7/8	+ 1/8	+16.6
N	SCIENTIFIC RESOURCES	2- 22	4	+ 3/4	+23.0
G	SOFTWARE SYSTEMS	1- 2	3/8	- 1/8	-25.0
G	TBS COMPUTER CENTERS	4- 27	4 1/2	0	0.0
G	UNITEO OATA CENTER	1- 4	2	+ 1/2	+33.3
H	UNIVERSITY COMPUTING	14- 99	23	+2 1/2	+12.1
A	URS SYSTEMS	5- 21	7 1/8	+ 1/8	+1.7
G	U.S. TIME SHARINO	2- 14	2 1/4	- 1/4	-10.0
	PERIPHERALS & SUBSYSTEMS				
N	AOORESSGGRAPH-MULT	20- 62	23 7/8	+3 5/8	+17.9
G	ALPHANUMERIC	2- 13	3 3/8	+ 1/8	+3.8
N	AMPEX CORP	13- 48	17 7/8	+2 1/8	+13.4
O	ASTRGOATA	1- 34	1 1/4	+ 1/4	+23.0
O	ATLANTIC TECHNGLGGY	2- 14	4 3/4	- 1/4	-5.0
A	BOLT,BERANEK & NEW	3- 11	6 3/8	+ 5/8	+10.8
N	BUNKER-RAMO	6- 14	9 1/8	+ 3/8	+4.2
A	CALCOMP	11- 36	34	+3 3/8	+11.9
O	COONITRONICS	3- 13	4 3/4	+ 1/8	+2.7
O	COLORAOO INSTRUMENTS	4- 13	3 5/8	- 1/8	-2.1
G	COMPUTER COMMUN.	5- 36	7 1/4	+2 3/4	+61.1
A	COMPUTER EQUIPMENT	4- 12	4	+ 1/8	+3.2
A	COMPUTEST	12- 28	14 7/8	+2 7/8	+23.9
O	CONSOL COMPUTER LTO.	4- 14	8 3/4	0	0.0
A	OATA PRGOUCTS CGRP	5- 26	8 1/8	+ 1/4	+4.2
O	OATA TECHNOLOGY	3- 23	2 3/4	- 1/4	-8.3
G	OIOITRONICS	4- 13	3 3/8	0	0.0
N	ELECTRGNIC M & M	7- 40	8 1/4	+1 3/8	+20.0
G	FABRI-TEK	2- 8	3	+1	+30.0
G	FARRINOTON MFG	2- 17	2 1/4	0	0.0
G	INFORMATION OISPLAYS	4- 20	6 3/4	+1 1/4	+22.7
O	MANAOEMENT ASSIST	1- 4	1	0	0.0
A	MARSHALL INDUSTRIES	14- 67	24 3/8	+4 3/8	+21.8
A	MILGG ELECTRONICS	15- 42	30 7/8	+2 1/4	+7.8
N	MGHAWK OATA SCI	19- 87	28 3/8	+2 7/8	+11.2
O	GPTICAL SCANNINO	11- 52	15	+ 1/2	+3.4
O	PHOTGN	4- 17	7 7/8	+ 1/8	+1.6
O	PHGTO-MAGNETIC SYS.	1- 9	1 3/8	0	0.0
A	POTTER INSTRUMENT	13- 42	20 3/8	+2 1/2	+13.9
O	PRECISIGN INST.	6- 23	8 1/2	0	0.0
O	RECOGNITION EQUIP	12- 83	13 1/8	+1 1/8	+8.0
O	REOCOR CORP.	4- 34	4 5/8	+ 3/8	+13.6
N	SANDERS ASSOCIATES	7- 29	12 5/8	+1 7/8	+17.4
O	SCAN OATA	5- 53	6 3/4	+2	+42.1
G	TALLY CGRP.	10- 23	13	+1 1/2	+13.0
N	TELEX	10- 23	20 7/8	+1 3/4	+9.1
G	VIATRGN	2- 51	1 3/4	- 3/4	-30.0
	SUPPLIES & ACCESSORIES				
N	AOAMS-MILLIS CGRP	8- 13	13	+1	+8.3
O	BALTIMORE BUS FGRMS	7- 21	8 1/2	0	0.0
A	BARRY WRIGHT	6- 25	9	+1 3/8	+18.0
A	DATA DOCUMENTS	15- 35	18 1/4	- 1/2	-2.6
N	ENNIS BUS. FORMS	9- 19	10 3/4	+1 1/4	+13.1
O	GRAHAM MAGNETICS	5- 10	9	+1	+12.5
O	GRAPHIC CONTROLS	7- 17	7	+ 1/4	+3.7
N	MEMOREX	46-166	82 1/4	+11 3/8	+16.0
N	3M COMPANY	71-114	91 5/8	+1 5/8	+1.8
O	MOORE BUS. FORMS	27- 38	32 1/2	+1	+3.1
N	NASHUA CORP	21- 43	24 1/2	0	0.0
O	REYNOLDS & REYNOLD	25- 48	38 1/4	+ 1/4	+0.6
G	STANDARO REGISTER	17- 30	18 1/4	+ 1/4	+1.3
N	UARCG	22- 39	24 3/4	+1 3/8	+3.8
A	WABASH MAONETICS	7- 30	7 3/8	+ 3/8	+5.3
G	WALLACE BUS FORMS	17- 41	18 7/8	+1 3/4	+10.2
	COMPUTER SYSTEMS				
N	BURRGUGHS CGRP	78-173	114 3/4	+6 7/8	+6.3
N	COLLINS RAOIG	9- 37	14 3/4	+1 3/4	+13.4
N	CONTROL GATA CGRP	30-122	50	+2 3/8	+5.5
G	OATA OENERAL CORP	16- 39	26 1/4	+4 1/4	+19.3
N	OIGITAL EQUIPMENT	50-124	67 3/8	+9 1/8	+13.6
N	ELECTRONIC ASSOC.	3- 11	4 1/4	0	0.0
A	ELECTRONIC EHGINEER.	3- 14	4	0	0.0
N	FOKBORG	18- 39	22	+1 3/4	+8.6
G	GENERAL AUTGMATIGN	9- 42	14 1/4	+1 1/4	+9.6
N	GENERAL ELECTRIC	60- 89	87 3/4	+ 3/8	+0.4
N	HEWLETT-PACKARD CG	19- 45	26	+ 3/4	+2.9
N	HONEYWELL INC	65-152	80 7/8	+8 1/8	+11.1
N	IBM	223-387	311 1/2	+12 1/2	+4.1
N	NCR	30- 86	35 3/4	+1 1/8	+3.2
F	RCA	18- 34	25 1/2	+2 1/8	+9.0
N	RAYTHEGN CG	16- 33	23 3/8	+3	+14.5
O	SCI. CONTROL CORP.	1- 8	1 1/2	0	0.0
N	SPERRY RANO	19- 40	24 3/8	+2 3/8	+10.6
A	SYSTEMS ENG. LABS	10- 49	16 1/4	+1 1/4	+8.3
N	VARIAN ASSOCIATES	9- 29	12 3/4	+1 3/4	+15.9
A	WANG LABS.	18- 31	33 3/4	+4 5/8	+15.8
N	XERGX CORP	66-115	88 3/8	+1 3/4	+2.0
	LEASING COMPANIES				
G	BOOTHE COMPUTER	8- 23	12 3/8	+ 5/8	+5.3
G	BRESNAHAN CGMP.	2- 9	2 3/8	0	0.0
O	COMPUTER EXCHANGE	2- 8	4	+ 1/8	+3.2
A	COMPUTER INVSTRS GRP	4- 12	7 3/4	- 1/2	-6.0
N	OATA PROC. F & G	6- 32	12	+1 5/8	+15.6
G	OATRONIC RENTAL	2- 8	2 1/2	- 1/8	-4.7
A	OEARBORN COMPUTER	10- 24	19 3/8	-1	-4.9
G	OIEBGLD COMP. LEAS.	2- 8	3 5/8	0	0.0
A	OPA, INC.	3- 10	4 1/8	0	0.0
A	GRANITE MGT	7- 22	9 1/2	+ 3/8	+4.1
A	OREYHOUND COMPUTER	5- 44	7 1/8	+ 5/8	+9.6
N	LEASCG OATA PRDC.	7- 30	11 7/8	+1 1/2	+14.4
O	LECTRO COMP LEAS	2- 9	2 1/8	+ 1/8	+6.2
A	LEVIN-TOWHSENO CMP	3- 19	4 7/8	0	0.0
O	LMC OATA, INC.	1- 3	3/4	+ 1/8	+20.0
G	NCC INOUSTRIES	3- 8	3 3/8	- 1/8	-3.5
G	SYSTEMS CAPITAL	1- 8	2 1/4	- 1/4	-10.0
N	U.S. LEASING	3- 19	13 5/8	+1 1/8	+9.0

EXCH: N=NEW YORK EXCHANGE; A=AMERICAN EXCHANGE
L=NATIGNAL EXCHANGE; O=GVER-THE-COUNTER
G-T-C PRICES ARF RIO PRICES AS OF 3 P.M. OR LAST BID
(1) TO HEAREST OOLLAR

Computer Stocks Trading Index



BASE FOR EACH TRADING INDEX: 100 as of 3/1/68

Earnings Reports

(Continued from Page 30)

ADDRESSOGRAPH-MULTIGRAPH
Three Months Ended Oct. 31

	1970	1969
Shr Ernd	$.07	$.42
Revenue	96,613,000	96,129,000
Earnings	547,000	3,388,000

BOLT BERANEK & NEWMAN
Three Months Ended Sept. 30

	1970	1969
Shr Ernd	$.04	$.10
Revenua	4,428,400	4,573,000
Earnings	50,300	116,100

COMPUTER USAGE CO.
Year Ended Sept. 30

	1970	1969
Ravenua	$5,522,900	$11,466,202
Spec Chg	735,950	a682,000
Loss	2,482,689	1,536,586

a-Faderal tax credit.

DATA-DESIGN LABORATORIES
Three Months Ended Sept. 10

	1970	1969
Shr Ernd	$.06	$.06
Ravenue	2,441,000	1,486,900
Earnings	•68,602	68,065

ELECTRONIC COMPUTER PROG. INST.
Three Months Ended Sept. 10

	1970	a1969
Shr Ernd	$.01	.....
Ravenua	697,730	$926,337
Earnings (Loss)	11,466	(9,194)
9 Mo Shr	b.06	......
Revenue	2,361,486	2,492,033
Spec Cred	c11,161	.....
Earnings (Loss)	a55,713	(10,203)

a-Rastated for an accounting changa. b-Based on income befora special cradit. c-From sale of a company-owned subsidiary. e-Equal to 7 cents a shara.

HEWLETT-PACKARD CO.
Year Ended Oct. 21

	a1970	1969
Shr Ernd	$.89	b$1.01
Ravanue	347,949,000	323,780,000
Earnings	22,796,000	25,585,000
3 Mo Shr	.21	b.31
Ravenua	85,805,000	89,094,000
Earnings	5,545,000	7,771,000

a-Preliminary raport. b-Adjusted to reflact the two-for-one stock split in March 1970.

FOUND

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